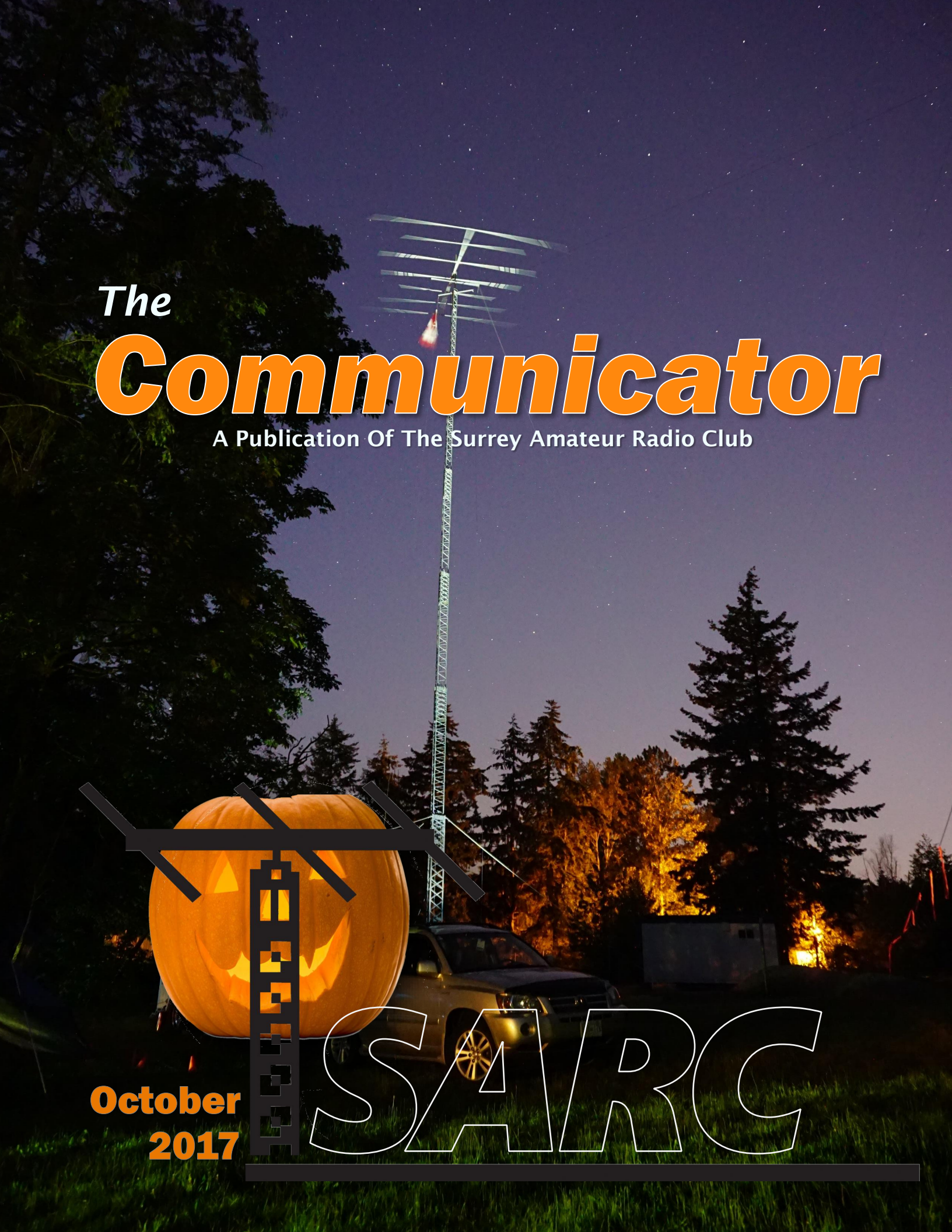


The Communicator

A Publication Of The Surrey Amateur Radio Club

October 2017

SARC

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The **Communicator** is a publication of the Surrey Amateur Radio Club. It appears monthly, except July and August, for area Amateur Radio operators, to enhance the exchange of information and to promote local ham radio activity.

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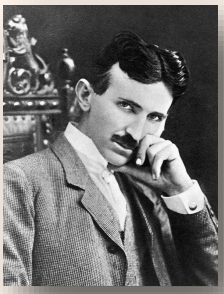
Regular readers who are not SARC members are invited to contribute a $5 annual donation towards our Field Day fund.

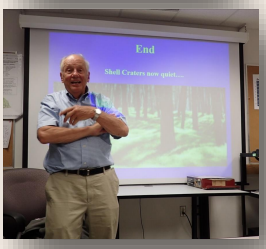
SARC maintains a website at **www.ve7sar.net** and a Digital Communicator at **ve7sar.blogspot.ca** that includes recent news, past issues of The Communicator, club history, photos, videos and other information.

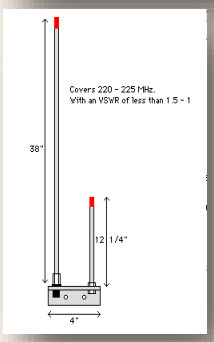
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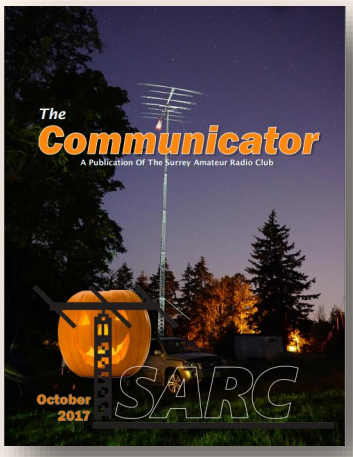


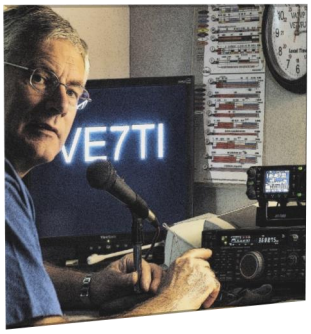
On The Cover…

This gorgeous photo was taken by Michael VE7GMP at our Field Day site, thanks!

It's Halloween month, but also a time when Amateur Radio gets into 'high gear'. This is because of anticipated events such as contests, and Atlantic hurricane season but also a few unexpected natural disasters added, as witnessed in the past weeks in Puerto Rico and Mexico.

This issue should have something for everyone, from an interesting profile of Nikola Tesla to some building projects. Enjoy!





QRM

...from the Editor's Shack

Do you have a photo or bit of club news to share?
An Interesting link?

Something to sell or something you are looking for?
eMail it to communicator @ ve7sar.net for inclusion in this publication.

We just completed a three week cruise up the Eastern Seaboard from New York, via the Maritimes to Quebec City, and from there a road trip to Toronto via Niagara Falls. It was interesting to have some QSOs with the Hams in that area, particularly given the on-going hurricanes threatening, but not reaching the northern states and provinces (fortunately for us). There was a lot of activity with Hurricane Nets and it reminded me how hams, not only in the affected areas, but also those on the periphery, spring into action for major events. Amateur Radio was the only means of communications in many of the affected areas and it will be some time before commercial services are fully restored. *See the request for assistance on page 25.*

The other thing I noticed while driving the back roads in Quebec and Ontario is the number of lightweight towers and TV antennas. Almost every house in the countryside has one, some short and some quite tall, yet not guyed. My own 'skinny' tower reaches only one section above the roof as per the manufacturer's recommendation, yet I saw the same tower extending two and even four sections above the last anchor point. I suppose a TV antenna has a lower wind resistance. The other noticeable difference from west coast installations is the number of lightning rods in use. It is obviously a much greater concern there.

We also happened upon the statue dedicated to Nikola Tesla in Niagara Falls—*more on that starting on page 4.*

Sadly, there was not much routine repeater activity en-route. It seems Eastern hams are no more prone to using their repeaters as those in BC. Most of the calls I heard in the Maritimes were two-letter, a reflection of the lower number of Amateurs in those provinces. Ontario, like BC, was much more of a mix of VE and VA3s.

All in all it was an interesting experience to 'Ham It Up' on the East coast.

On a matter closer to home, we would like to welcome back Surrey City Councilor Mary Martin after her medical absence. She has visited our Field Day site in the past and has been a strong supporter of Amateur Radio in the city. We wish you all the best!

~ John VE7TI
Communicator Editor

On the Web

ve7sar.net

Between newsletters, watch your e-mail for news, announcements of Amateur Radio events, monthly meetings and training opportunities.

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Any sufficiently advanced technology is indistinguishable from magic ~Arthur C. Clarke



The Rest Of The Story…

Nikola Tesla

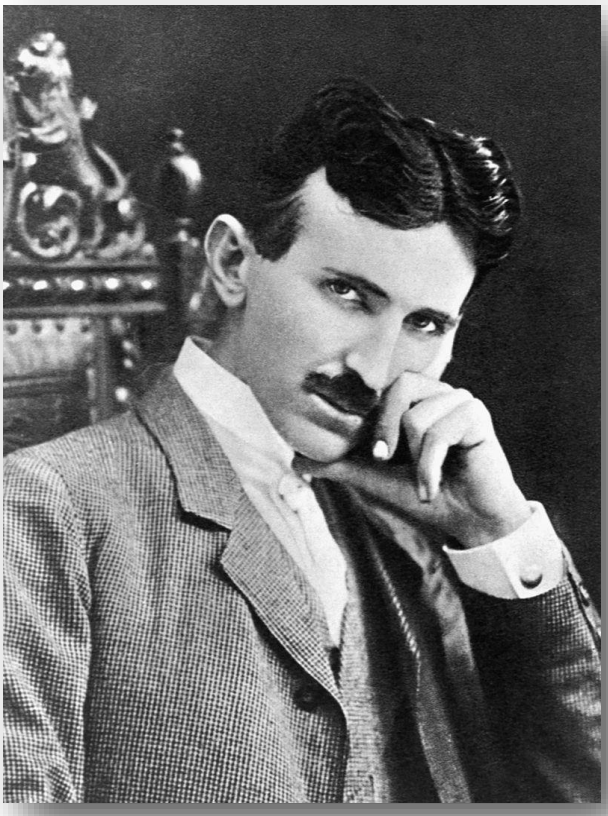
Genius or Mad Scientist?

…Tesla conducted a range of experiments with mechanical oscillators/generators, electrical discharge tubes, and early X-ray

Nikola Tesla (10 July 1856 – 7 Jan 1943) He was an eccentric - and unbelievably under-rated genius known as the 'wild man of electronics', and was without doubt one of the greatest minds in the history of the human race.

Admittedly, he also had more loose screws than a Mechano set.

If it weren't for this slightly manic genius, you wouldn't be reading this page, you probably wouldn't be doing it in a brightly-lighted room - and you certainly wouldn't be reading it on your computer.



Tesla invented the alternating-current generator that provides your light and electricity, the transformer through which it is sent, and even the high voltage coil used in the pre-LED picture tube. The Tesla Coil, in fact, was used in radios, television sets, and a wide range of other electronic equipment - invented in 1891, no-one's ever come up with anything better.

Born and raised in the Austrian Empire (now Croatia), Tesla received an advanced education in engineering and physics in the 1870s and gained practical experience in the early 1880s working in telephony and at Continental Edison in the new electric power industry.

He emigrated to the United States in 1884, where he would become a naturalized citizen. He worked for a short time at the Edison Machine Works in New York City before he struck out on his own. With the help of partners to finance and market his ideas, Tesla set up laboratories and companies in New York to develop a range of electrical and mechanical devices. His alternating current (AC) induction motor and related polyphase AC patents, licensed by Westinghouse Electric in 1888, earned him a considerable amount of money and became the cornerstone of the polyphase system which that company would eventually market.

Attempting to develop inventions he could patent and market, Tesla conducted a range of experiments with mechanical oscillators/generators, electrical discharge tubes, and early X-ray imaging. He also built a wireless-controlled boat, one of the first ever exhibited. Tesla became well known as an inventor and would demonstrate his achievements to celebrities and wealthy patrons at his lab, and was noted for his showmanship at public lectures.

Throughout the 1890s, Tesla would pursue his ideas for wireless lighting and worldwide wireless electric power distribution in his high-voltage, high-frequency power experiments in New York and Colorado Springs. In 1893, he made pronouncements on the possibility of wireless communication with his devices. Tesla tried to put these ideas to practical use in his unfinished Wardenclyffe Tower

project, an intercontinental wireless communication and power transmitter, but ran out of funding before he could complete it.

After Wardenclyffe, Tesla went on to try to develop a series of inventions in the 1910s and 1920s with varying degrees of success. Having spent most of his money, he lived in a series of New York hotels, leaving behind unpaid bills. The nature of his earlier work and the pronouncements he made to the press later in life earned him the reputation of an archetypal "mad scientist" in American popular culture.

Early Life

Tesla wrote that he became interested in demonstrations of electricity by his physics professor. Tesla noted that these demonstrations of this "mysterious phenomena" made him want "to know more of this wonderful force". Tesla was able to perform integral calculus in his head, which prompted his teachers to believe that he was cheating. He finished a four-year term in three years, graduating in 1873.

In 1881, Tesla moved to Budapest, Hungary, to work under Tivadar Puskás at a telegraph company, the Budapest Telephone Exchange. Upon arrival, Tesla realized that the company, then under construction, was not functional, so he worked as a draftsman in the Central Telegraph Office instead. Within a few months, the Budapest Telephone Exchange became functional, and Tesla was allocated the chief electrician position. During his employment, Tesla made many improvements to the Central Station equipment and claimed to have perfected a telephone repeater or amplifier, which was never patented nor publicly described.

Tesla began working with Thomas Edison, but the two men were worlds apart in both their science and cultures (the fact that Tesla's alternating-current concept posed a direct threat to sales of Edison's direct-current devices probably didn't help) and they soon went their separate ways. In 1893, Edward Dean Adams, who headed up the Niagara Falls Cataract Construction Company, sought Tesla's opinion on what system would be best to transmit power generated at the falls.

Letting Tesla go wasn't the brightest thing Edison had ever done, though - George Westinghouse promptly snapped up the patent rights to Tesla's alternating-current motors, dynamos, and transformers. The buy-out triggered a power struggle which eventually saw Edison's direct-current systems relegated to second place, and the DC motors installed in German and Irish trains only a few years before, rendered obsolete.

But not without a fight. Advocates of direct-current power - desperate to discredit their alternating-current competitor - claimed that AC current was hazardous to humans. In support of their argument, DC defenders took the novel approach of using a standard Westinghouse (AC) generator to discharge death sentences in New York State. An interesting approach (to say the least), although futile in the long run. As late as 1903, Marconi publicly electrocuted an elephant to convince them that AC was dangerous.
[https://www.wired.com/2008/01/dayintech-0104/]

In 1893 Westinghouse used Tesla's alternating-current system to light the World's Columbian Exposition in Chicago. Edison was not a happy man. His company, General Electric, had also bid for the lighting contract, but the GE proposal would have cost roughly twice as much and have produced less light for a lot more heat. In a snit, Edison tried to ban the use of 'his' light bulbs with Telsla's electrical system, and urged General Electric to bar the use of the company's lamps in any Westinghouse exhibits. Despite Edison's tantrums, Westinghouse soon gained a contract to build the massive turbines at Niagara Falls, and alternating-current was firmly entrenched.

In March 1896, after hearing of Wilhelm Röntgen's discovery of X-ray and X-ray imaging (radiography), Tesla proceeded to do his own experiments in X-ray imaging, developing a high energy single terminal vacuum tube of his own design that had no target electrode and that worked from the output of the Tesla Coil (the modern term for the phenomenon produced by this device is bremsstrahlung or braking radiation). In his research, Tesla devised several experimental setups to produce X-rays. Tesla held that, with his circuits, the "instrument will “… enable


Tesla monument at Niagara Falls, ON



Tesla's Wardenclyffe plant on Long Island in 1904. From this facility, Tesla hoped to demonstrate wireless transmission of electrical energy across the Atlantic.

one to generate Roentgen rays of much greater power than obtainable with ordinary apparatus." Within a short time, he had pre-empted Röntgen's discovery of X-rays with his own experimental shadowgraphs.

Tesla noted the hazards of working with his circuit and single-node X-ray-producing devices. In his many notes on the early investigation of this phenomenon, he attributed skin damage to various causes. He believed early on that damage to the skin was not caused by the Rontgen rays, but by the ozone generated in contact with the skin, and to a lesser extent, by nitrous acid.

Tesla envisioned the relays, vacuum tubes, and transistors of future decades with his electric logic circuits; even the wireless radio - the principles of which were described by Tesla in minute detail years before Marconi transmitted his first morse code message. Tesla, on hearing of Marconi's efforts, is said to have remarked to a friend: "Marconi is a good fellow. Let him continue. He is using 17 of my patents." If so, Tesla changed his mind eventually, suing Marconi for patent breach.

In 1898, Tesla demonstrated a boat that used a coherer-based radio control—which he dubbed "telautomaton"—to the public during an electrical exhibition at Madison Square Garden. The crowd that witnessed the demonstration made outrageous claims about the workings of the boat, such as magic, telepathy, and being piloted by a trained monkey hidden inside. Tesla tried to sell his idea to the U.S. military as a type of radio-controlled torpedo, but they showed little interest. Remote radio control remained a novelty until World War I and afterward, when a number of countries used it in military programs. Tesla took the opportunity to further demonstrate "Teleautomatics" in an address to a meeting of the Commercial Club in Chicago, while he was travelling to Colorado Springs, on 13 May 1899.

To further study the conductive nature of low pressure air, Tesla set up an experimental station at high altitude in Colorado Springs during 1899. There he could safely operate much larger coils than in the cramped confines of his New York lab. An associate had made an arrangement for the El Paso Power Company to supply alternating current free of charge. To fund his experiments, he convinced John Jacob Astor IV to invest $100,000 to become a majority share holder in the Nikola Tesla Company. Astor thought he was primarily investing in the new wireless lighting system. Instead, Tesla used the money to fund his Colorado Springs experiments. Upon his arrival, he told reporters that he planned to conduct wireless telegraphy experiments, transmitting signals from Pikes Peak to Paris.

He conducted experiments with a large coil operating in the megavolts range, producing artificial lightning (and thunder) consisting of millions of volts and up to 135 feet (41 m) long discharges. The first time Tesla tested one of his inventions at full power, the roar was heard for more than 16 kilometres (10 miles) and, at one point, inadvertently burned out the generator in El Paso, setting it on fire, causing a power outage. Tesla managed to light 200 lamps, without wires, from 40 kilometres (25 miles) away. The observations he made of the electronic noise of lightning strikes, led him to (incorrectly) conclude that he could use the entire globe of the Earth to conduct electrical energy.

During his time at his laboratory Tesla observed unusual signals from his receiver which he speculated to be communications from another planet. He mentioned them in a letter to a reporter in December 1899 and to the Red Cross Society in December 1900. Reporters treated it as a sensational story and jumped to the conclusion Tesla was hearing signals from Mars. He expanded on the signals he heard in a 9 February 1901 Collier's Weekly article "Talking With Planets" where he said it had not been immediately apparent to him that he was hearing "intelligently controlled signals" and that the signals could come from Mars, Venus, or other planets. It has been hypothesized that he may have intercepted Guglielmo Marconi's European experiments in July 1899—Marconi may have transmitted the letter S (dot/dot/dot) in a naval demonstration,

the same three impulses that Tesla hinted at hearing in Colorado—or signals from another experimenter in wireless transmission.

Tesla made the rounds in New York trying to find investors for what he thought would be a viable system of wireless transmission, wining and dining them at the Waldorf-Astoria's Palm Garden (the hotel where he was living at the time), The Players Club and Delmonico's. In March 1901, he obtained $150,000 ($4,318,200 in today's dollars) from J. Pierpont Morgan in return for a 51% share of any generated wireless patents, and began planning the Wardenclyffe 'wireless world broadcasting' Tower facility to be built in Shoreham, New York, 100 miles (161 km) east of the city on the North Shore of Long Island.

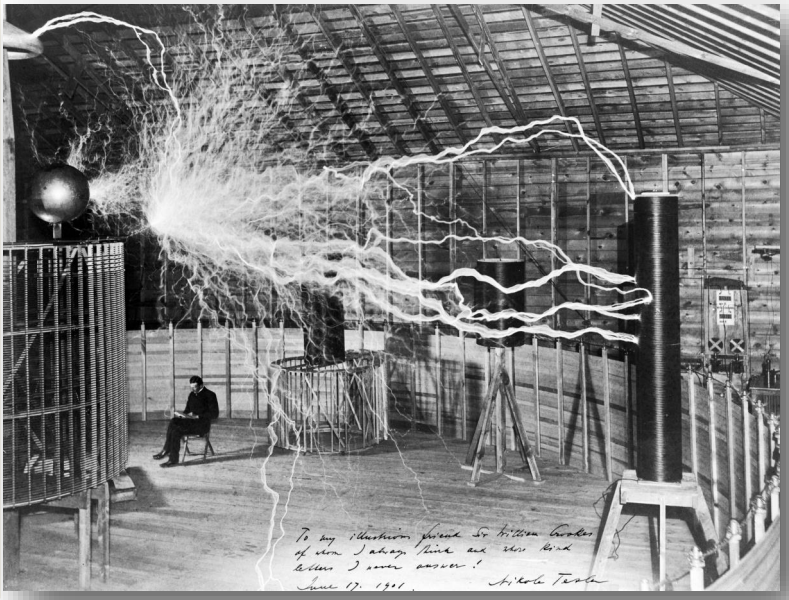
By July 1901, Tesla had expanded his plans to build a more powerful transmitter to leap ahead of Marconi's radio based system, which Tesla thought was a copy of his own system. Even before Marconi's Morse code 's' hit the airwaves, Tesla was determined that his invention wasn't going to be limited to dots and dashes. Tesla planned on linking the world together through its telephone and telegraph systems, transmitting pictures and text from one end of the globe to the other in minutes, and delivering mail between special terminals, using electronic messaging.

He approached Morgan to ask for more money to build the larger system but Morgan refused to supply any further funds. In December 1901, Marconi successfully transmitted the letter S from England to Newfoundland, defeating Tesla in the race to be first to complete such a transmission. A month after Marconi's success Tesla tried to get Morgan to back an even larger plan to transmit messages and power by controlling "vibrations throughout the globe". Over the next five years, Tesla wrote more than 50 letters to Morgan, pleading for and demanding additional funding to complete the construction of Wardenclyffe. Tesla continued the project for another nine months into 1902. The tower was erected to its full 187 feet (57m). Labour disputes and financial panic got in the way, and Tesla's Long Island construction was abandoned when Morgan withdrew funding. It was Tesla's greatest disappointment, and a loss to the entire world.

Investors on Wall Street were putting their money into Marconi's system and some in the press began turning against Tesla's project, claiming it was a hoax. The project came to a halt in 1905 and in 1906, the financial problems and other events may have led to what Tesla biographer Marc J. Seifer suspects was a nervous breakdown on Tesla's part. Tesla mortgaged the Wardenclyffe property to cover his debts at the Waldorf-Astoria, which eventually mounted to $20,000 ($478,200 in today's dollars). He lost the property in foreclosure in 1915 and in 1917 the Tower was demolished by the new owner to make the land a more viable real estate asset.

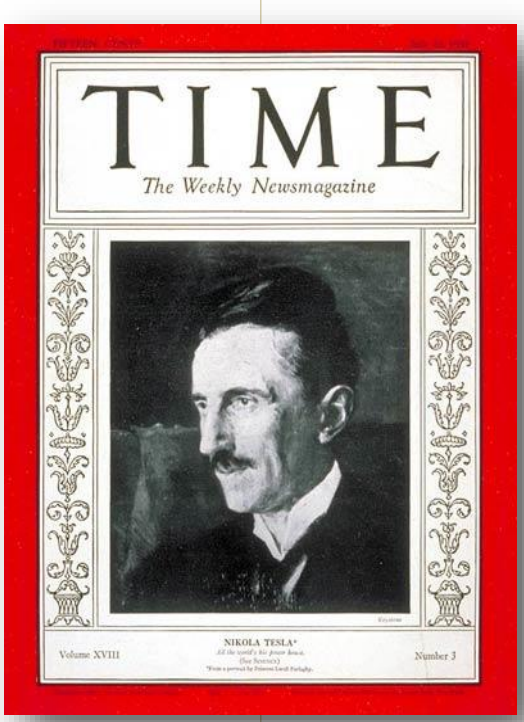
In 1915, Tesla attempted to sue the Marconi Company for infringement of his wireless tuning patents. Marconi's initial radio patent had been awarded in the US in 1897, but his 1900 patent submission covering improvements to radio transmission had been rejected several times, before it was finally approved in 1904, on the grounds that it infringed on other existing patents including two 1897 Tesla wireless power tuning patents. Tesla's 1915 case went nowhere, but in a related case, where the Marconi Company tried to sue the US government over WWI patent infringements, a Supreme Court of the United States 1943 decision restored the prior patents of Oliver Lodge, John Stone, and Tesla. The court declared that their decision had no bearing on Marconi's claim as the first to achieve radio transmission, just that since Marconi's claim to certain patented improvements were questionable, the company could not claim infringement on those same patents.

A multiple exposure picture of Tesla sitting next to his "magnifying transmitter" generating millions of volts. The 7-metre (23 ft) long arcs were not part of the normal operation, but only produced for effect by rapidly cycling the power switch



Unfortunately, the law suit dragged out until a few months after Tesla's death and he never saw a penny in compensation.

Early on, Tesla theorized that the application of electricity to the brain enhanced intelligence. In 1912, he crafted "a plan to make dull students bright by saturating them unconsciously with electricity," wiring the walls of a schoolroom and, "saturating (the schoolroom) with infinitesimal electric waves vibrating at high frequency. The whole room will thus, Mr. Tesla claims, be converted into a health-giving and stimulating electromagnetic field or 'bath.'" The plan was, at least provisionally, approved by then superintendent of New York City schools, William H. Maxwell.



Before World War I, Tesla sought overseas investors. After the war started, Tesla lost the funding he was receiving from his patents in European countries. In the August 1917 edition of the magazine Electrical Experimenter, Tesla postulated that electricity could be used to locate submarines via using the reflection of an "electric ray" of "tremendous frequency," with the signal being viewed on a fluorescent screen (a system that has been noted to have a superficial resemblance to modern radar). Tesla was incorrect in his assumption that high frequency radio waves would penetrate water. But Émile Girardeau, who helped develop France's first radar system in the 1930s, noted in 1953 that Tesla's general speculation that a very strong high-frequency signal would be needed was correct. Girardeau said, "(*Tesla*) was prophesying or dreaming, since he had at his disposal no means of carrying them out, but one must add that if he was dreaming, at least he was dreaming correctly."

In 1928, Tesla received his last patent, U.S. Patent 1,655,114 , for a biplane capable of taking off vertically (VTOL aircraft) and then of being "gradually tilted through manipulation of the elevator devices" in flight until it was flying like a conventional plane. Tesla thought the plane would sell for less than $1,000, although the aircraft had been described as impractical.

At about this time, Tesla closed his last office at 350 Madison Ave., which he had moved into two years earlier. As mentioned, since 1900, Tesla had been living at the Waldorf Astoria in New York running up a large bill. In 1922, he moved to St. Regis Hotel and would follow a pattern from then on of moving to a new hotel every few years leaving behind unpaid bills.

Tesla would walk to the park every day to feed the pigeons. He took to feeding them at the window of his hotel room and bringing the injured ones in to nurse back to health. He said that he had been visited by a specific injured white pigeon daily. Tesla spent over $2,000, including building a device that comfortably supported her so her bones could heal, to fix her broken wing and leg. Tesla stated:

"I have been feeding pigeons, thousands of them for years. But there was one, a beautiful bird, pure white with light grey tips on its wings; that one was different. It was a female. I had only to wish and call her and she would come flying to me. I loved that pigeon as a man loves a woman, and she loved me. As long as I had her, there was a purpose to my life."

Tesla's unpaid bills, and complaints about the mess from his pigeon-feeding, forced him to leave the St. Regis in 1923, the Hotel Pennsylvania in 1930, and the Hotel Governor Clinton in 1934. At one point, he also took rooms at the Hotel Marguery.

In 1934, Tesla moved to the Hotel New Yorker and Westinghouse Electric & Manufacturing Company began paying him $125 per month as well as paying his rent, expenses the Company would pay for the rest of Tesla's life. Accounts of how this came about vary. Several sources say Westinghouse was worried (or warned) about potential bad publicity surrounding the impoverished conditions under which their former star inventor was living. The payment has been described as being couched as a "consulting fee" to get around Tesla's aversion to accept charity, or by one biographer (Marc Seifer), as a type of unspecified settlement. In 1931, Kenneth Swezey, a young writer who had been associated with Tesla for some time, organized a celebration for the inventor's 75th birthday.

Tesla received congratulatory letters from more than 70 pioneers in science and engineering, including Albert Einstein, and he was also featured on the cover of Time magazine. The cover caption "All the world's his power

house" noted his contribution to electrical power generation. The party went so well Tesla made it an annual event, an occasion where he would put out a large spread of food and drink (featuring dishes of his own creation) and invite the press to see his inventions and hear stories about past exploits, views on current events, or sometimes odd or baffling claims.

At the 1932 occasion, Tesla claimed he had invented a motor that would run on cosmic rays. In 1933, at age 77, Tesla told reporters that, after thirty-five years of work, he was on the verge of producing proof of a new form of energy. He claimed it was a theory of energy that was "violently opposed" to Einsteinian physics, and could be tapped with an apparatus that would be cheap to run and last 500 years.

He also told reporters he was working on a way to transmit individualized private radio wavelengths, working on breakthroughs in metallurgy, and developing a way to photograph the retina to record thought.

At the 1934 party, Tesla told reporters he had designed a superweapon he claimed would end all war. He would call it "teleforce", but was usually referred to as his death ray. Tesla described it as a defensive weapon that would be put up along the border of a country to be used against attacking ground-based infantry or aircraft. Tesla never revealed detailed plans of how the weapon worked during his lifetime but in 1984, they surfaced at the Nikola Tesla Museum archive in Belgrade. The treatise, The New Art of Projecting Concentrated Non-dispersive Energy through the Natural Media, described an open-ended vacuum tube with a gas jet seal that allows particles to exit, a method of charging slugs of tungsten or mercury to millions of volts, and directing them in streams (through electrostatic repulsion). Tesla tried to interest the US War Department, the United Kingdom, the Soviet Union, and Yugoslavia in the device. There's some confusion on whether the 'ray' consisted of laser or particle beams (both of which Tesla had been mulling over for years), or if a working prototype had been developed. Tesla couldn't share the details. In a coincidence that raises the hackles of conspiracy theorists to this day.

In 1935, at his 79th birthday party, Tesla covered many topics. He claimed to have discovered the cosmic ray in 1896 and invented a way to produce direct current by induction, and made many claims about his mechanical oscillator. Describing the device (which he expected would earn him $100 million within two years) he told reporters that a version of his oscillator had caused an earthquake in his 46 East Houston Street lab and neighboring streets in downtown New York City in 1898. He went on to tell reporters his oscillator could destroy the Empire State Building with 5 lbs of air pressure. He also explained a new technique he developed using his oscillators he called "Telegeodynamics", using it to transmit vibrations into the ground that he claimed would work over any distance to be used for communication or locating underground mineral deposits.

At his 1937 celebration in the Grand Ballroom of Hotel New Yorker, Tesla received the "Order of the White Lion" from the Czechoslovakia ambassador and a medal from the Yugoslavian ambassador. Now 81,Tesla challenged Einstein's theory of relativity, announcing that he was working on a dynamic theory of gravity that would do away with the calculation of space curvature. The theory was never published, but a similar theory involving gravity waves - developed in the mid-1990s - is used in the study of plasma cosmology (which explains properties of energy and the structure of the universe by studying the electromagnetic effects of plasma). On questions concerning the death ray, Tesla stated, "But it is not an experiment… I have built, demonstrated and used it. Only a little time will pass before I can give it to the world."

In the fall of 1937, after midnight one night, Tesla left the Hotel New Yorker to make his regular commute to the cathedral and the library to feed the pigeons. While crossing a street a couple of blocks from the hotel, Tesla was unable to dodge a moving taxicab and was thrown to the ground. His back was severely wrenched and three of his ribs were broken in the accident. The full extent of his injuries were never known; Tesla refused to consult a doctor, an almost lifelong custom, and never fully recovered.

On 7 January 1943, at the age of 86, Tesla died alone in Room 3327 of the New Yorker Hotel. His body was later found by maid Alice Monaghan after she had entered Tesla's room, ignoring the "do not disturb" sign that Tesla had placed on his door two days earlier. Assistant medical examiner H.W. Wembly examined the body and ruled that the cause of death had been coronary thrombosis. And then the FBI nicked everything he owned.

Totally incapable of understanding even basic finances, this was a man with a germ phobia of which Howard Hughes would have been proud. Tesla believed extraterrestrials had contacted him in Colorado Springs. He suffered from hallucinations, night tremors, and a terrified loathing of women wearing earrings. He also had the rather anti-social habit of spending his time at dinner parties calculating the cubic contents of his plate.

After his death his work fell into relative obscurity, but in 1960, the General Conference on Weights and Measures named the SI unit of magnetic flux density, the tesla, in his honour.

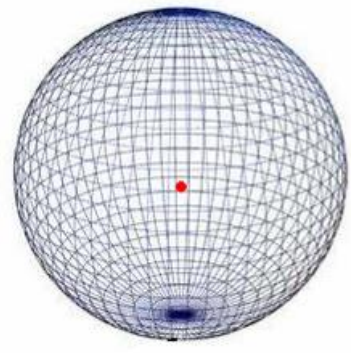


Back to Basics

John Schouten VE7TI

From The Basic Question Bank

What is dBi?



B-006-009-010 The gain of an antenna, especially on VHF and above, is quoted in dBi. The "i" in this expression stands for:

1. **isotropic**
2. **ideal**
3. **Ionosphere**
4. **interpolated**

There are a couple of questions in the Basic Question Bank that relate to decibels and to antenna gain measurements. This specific question involves two concepts, measurement in decibels and isotropic antennas.

The decibel (symbol: dB) is a logarithmic unit used to express the ratio of one value of a physical property to another, and may used to express a change in value (e.g., +1 dB or -1 dB) or an absolute value. In the latter case, it expresses the ratio of a value to a reference value; when used in this way, the decibel symbol should be appended with a suffix that indicates the reference value or some other property. For example, if the reference value is 1 volt, then the suffix is "dBV" (i.e., "20 dBV"), and if the reference value is one milliwatt, then the suffix is "dBm" (i.e., "20 dBm"). For Basic exam purposes, it is important to know that +3dB is a doubling and -3dB a halving of a value. For example, question B-006-009-011asks about the front-to-back ratio of a beam antenna.

The definition of the decibel is based on the measurement of power in telephony of the early 20th century in the Bell System in the United States. One decibel is one tenth (deci-) of one bel, named in honor of Alexander Graham Bell; however, the bel is seldom used. Today, the decibel is used for a wide variety of measurements in science and engineering, most prominently in acoustics, electronics, and control theory. In electronics, the gains of amplifiers, antennas, attenuation of signals, and signal-to-noise ratios are often expressed in decibels.

An isotropic radiator *[pictured on the left*] does not exist, it is a theoretical point source of electromagnetic or sound waves which radiates the same intensity of radiation in all directions. It is a point in space. It has no preferred direction of radiation. It radiates uniformly in all directions over a sphere centered on the source. Isotropic radiators are used as reference radiators with which other sources are compared, for example in determining the gain of antennas.

In electromagnetics, an antenna's power gain or simply ‘gain’ is a key performance number which combines the antenna's directivity and electrical efficiency. In a transmitting antenna, the gain describes how well the antenna converts input power into radio waves headed in a specified direction. In a receiving antenna, the gain describes how well the antenna converts radio waves arriving from a specified direction into electrical power. When no direction is specified, "gain" is understood to refer to the peak value of the gain, the gain in the direction of the antenna's main lobe. A plot of the gain as a function of direction is called the radiation pattern.

Common Antenna Measurements

dBi

dB(isotropic) – the forward gain of an antenna compared with the hypothetical isotropic antenna, which uniformly distributes energy in all directions. Linear polarization of the EM field is assumed unless noted otherwise.

dBd

dB(dipole) – the forward gain of an antenna compared with a half-wave dipole antenna. 0 dBd = 2.15 dBi

dBq

dB(quarterwave) – the forward gain of an antenna compared to a quarter wavelength whip. Rarely used, except in some marketing material. 0 dBq = −0.85 dBi

dBsm

dB(m2) – decibel relative to one square meter: measure of the antenna effective area.

dBm−1

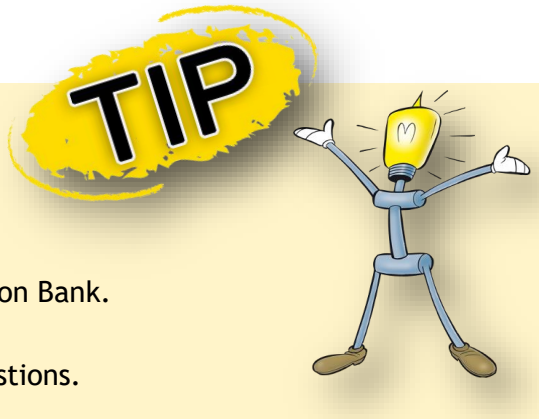
dB(m−1) – decibel relative to reciprocal of meter: measure of the antenna factor.

Antenna gain is usually defined as the ratio of the power produced by the antenna from a far-field source on the antenna's beam axis to the power produced by a hypothetical lossless isotropic antenna, which is equally sensitive to signals from all directions. Usually this ratio is expressed in decibels, and these units are referred to as "decibels-isotropic" (dBi). An alternative definition compares the received power to the power received by a lossless half-wave dipole antenna, in which case the units are written as dBd.

Directive gain or directivity is a different measure which does not take an antenna's electrical efficiency into account. This term is sometimes more relevant in the case of a receiving antenna where one is concerned mainly with the ability of an antenna to receive signals from one direction while rejecting interfering signals coming from a different direction.

The answer to our initial question therefore is **1. isotropic**.

~ John VE7TI



Study Links

Whether you are new to the hobby or brushing up on skills, you should find these study links helpful:

1. RIC-7 is the entire up-to-date Industry Canada (IC) Basic Question Bank. http://tinyurl.com/CanadaBasicQB
2. There is a RIC-7 that has some explanations along with the questions. RIC-7 2014rev08.05 with explanations.
3. The Amateur Radio Exam Generator is at: https://www.ic.gc.ca/eic/site/025.nsf/eng/h_00040.html
4. The ExHaminer Study software for Windows is at: https://wp.rac.ca/exhaminer-v2-5/
5. The Ham Study website has a flash card approach to learning the Question Bank, both Basic and Advanced. It is at: https://hamstudy.org

October 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Delta ARS ComFest 1720 56th Street, Tsawwassen	2	3 **1930 SEPAR Net** **2000 SARC Net** **SARC Basic Course (18:30-21:30)**	4	5	6	7 **0900 GNU Radio Workshop SFS Training Centre** CONTESTS: Oceana DX Contest (SSB) Russian WW Digital Contest California QSO Party (all modes)
8 CONTESTS: Oceana DX Contest (SSB) Russian WW Digital Contest California QSO Party (all modes)	9 Thanksgiving	10 **1930 SEPAR Net** **2000 SARC Net** **SARC Basic Course (18:30-21:30)**	11 **1900 SARC Monthly General Meeting**	12	13	14 0900 Klub Koffee Klatch: Kalmar Family Restaurant **Basic Course Antenna Workshop 9am-Noon OTC** **CONTEST: Pennsylvania & Arizona QSO Party (all modes)**
15 **CONTEST: Pennsylvania & Arizona QSO Party**	16	17 **1930 SEPAR Net** **2000 SARC Net** **SARC Basic Course (18:30-21:30)**	18	19 **1019 Great BC ShakeOut** Please check-In	20	21 0900 Klub Koffee Klatch: Kalmar Family Restaurant **JOTA _ Scout Jamboree On The Air 10am—3pm OTC** CONTEST: South Dakota & New York QSO Party (all modes)
22 CONTEST: South Dakota & New York QSO Party (all modes)	23	24 **1930 SEPAR Net** **2000 SARC Net** **SARC Basic Course (18:30-21:30)**	25 **SARC Exec Meeting**	26	27	28 0900 Klub Koffee Klatch: Kalmar Family Restaurant CONTEST: Oct CQ Worldwide DX Contest (SSB)
29 CONTEST: Oct CQ Worldwide DX Contest (SSB)	30	31 **1930 SEPAR Net** **2000 SARC Net** 				

For details on all SARC events, go to ve7sar.net

For details on all SEPARS events, go to separ.shutterfly.com/calendar

Contest Details: http://hornucopia.com/contestcal/contestcal.html



Page 13—News You Can Lose

The Lighter Side of Amateur Radio

Ham Upset Field Day Has Lost Its Spirit

By K5PO, on the scene

LEAVENWORTH, KANSAS — Billy Putnam is a ham radio purist. And he feels his club has lost their way and it's ruining their annual Field Day event.

Putnam is a senior member of the Hopeless Flats Radio Club from Leavenworth County, Kansas. The largest amateur radio club in the area has hosted a highly successful Field Day event for the last 27 years, but Putman says success is in the eye of the beholder. "So many of the new guys… they just seem to love nothing more than to operate."

"They arrive bright and early and slave and sweat over raising the antennas and then promptly sit down and laugh and operate for hours. They talk to visiting elected officials about the value of emergency communication, and then they offer to elmer some youngsters. These guys just don't get it!" said Putman.

Putman notes that "back in his day" Field Day was about far more than operating and ham radio.

"I remember in 1991, we had three potluck tables under the big tent we rent from Ed's Tentery," said Putman. "It was amazing, with ribs, brisket, baked beans, lasagna, deep fried chicken, and mounds of mashed potatoes. That was how Field Day was done. This year they wanted to set up the radios under the tent and the only food these guys brought was two bags of Tostitos corn chips!"

"A bunch of unlicensed youngsters showed up around Noon and ate all fried chicken I brought, he said. "They all built dipoles for the band of their choice and then operated on Martin's old Collins. They didn't even have them take turns flipping burgers on the grill! Heck, they didn't even bring the grill!"

"If things don't change next year," threatened Putman, "I'm just not going to bring my famous Mystery Jell-O anymore!"

Field Day notes from the past seven years indicated literally no one had ever eaten any of Bill Putman's Jell-O, citing an odd "fuzziness" that all felt was unwelcome in a gelatin product.



Surrey Amateur Radio Club



At The Last SARC Meeting

September General Meeting Minutes

Wednesday, September 13, 2017

Welcome and Announcements

President Stan Williams VA7NF chaired the meeting and provided an overview of some correspondence received by the club over the summer:

- A 50 ft tower and HF Yagi antenna have been offered to SARC
- The use of 146.420 MHz by some unlicensed persons has been heard
- Dundalk Radio Club (SARC's twin club in Ireland) thanked SARC for the condolence card sent for Tony Allen EI4DIB, who became a SK over the summer *[see page 18]*.

Financial Report

(Scott Hawrelak VE7HA)

- Payment of 2017/18 club membership dues are now in arrears but will be accepted by Scott during the meeting.
- SARC name tags can be ordered from Scott at $10 each.
- SARC club badges are also available at $4 each or 3 for $10.

Committee Reports

Membership

(John Brodie VA7XB)

- Those members who have not yet renewed will be sent a reminder shortly.
- John VA7XB will check with Scott VE7HA to confirm the names of those not in good standing and he will update the membership list accordingly.

Repeater

- Stan VA7NF will be approaching Surrey Fire Services to consider a possible relocation of our repeater to a nearby Surrey high-rise that has a clearer view to the east than our current location, which is blocked to the east.
- Stan VA7NF is reviewing with Dave Cameron VE7LTD the need for a new repeater controller to remedy technical issues with the current one.

Operations and Training Centre

(John Brodie VA7XB)

- Volunteers are needed for an OTC work party 9 – 12 am on Sunday Sept. 7.
- No word has been received to date on our application for a Gaming Grant.
- We have approx. $6000 available to spend on equipment so the OTC Committee will have to decide on purchase priorities.
- Over the summer, a new Alfa Spid RAK rotator, with controller, was installed on the yellow tower.
- Power connections have been installed at each of the 3 operating stations in conjunction with batteries, charger and UPS by Stan VA7NF.
- An HP colour printer and PDUs have been donated by Steve McLean VE7SXM (thank you Steve).

Christmas Party

(Jinty Reid VA7JMR)

- The Christmas Party on Dec. 9th will be at

Newlands Golf Course in the Oak Room from 11 am to 2:30 pm.

Contest Group

(Sheldon Ward VA7XNL)

- BC QSO Party awards were announced recently [see page 26 for SARC awards].
- Several members will be participating in the CQ WW DX (RTTY) Contest on Sept. 23-24.

B*asic Ham Class*

(Stan Williams VA7NF)

The class is proceeding well with 8 students, a smaller number than normal.

Field Day

(Sheldon Ward VA7XNL)

- Sheldon is looking for feedback on our 2017 FD to help improve the event next year.
- In 2017, all radio operators who wished to participate were accepted regardless of skill level, in keeping with a more social (v. competitive) event. However, in Sheldon's view all operators should attempt to have some contest experience before FD.
- John VA7XB noted that an application has been made to the City of Surrey for a Field Day grant (not done in 2016 for 2017).

— Coffee Break —

Presentation

An excellent presentation on Commemoration of the 100th Anniversary of the Battle of Vimy Ridge was made by Don Studney VE7DS and Jeanne Wilson VA7QD.

Planning for the VE100VIMY project began several years ago. The culmination of the event was in April 2017 marked by ceremonies at the memorial site in France.

Photos are on page 16 and further information can be found at:

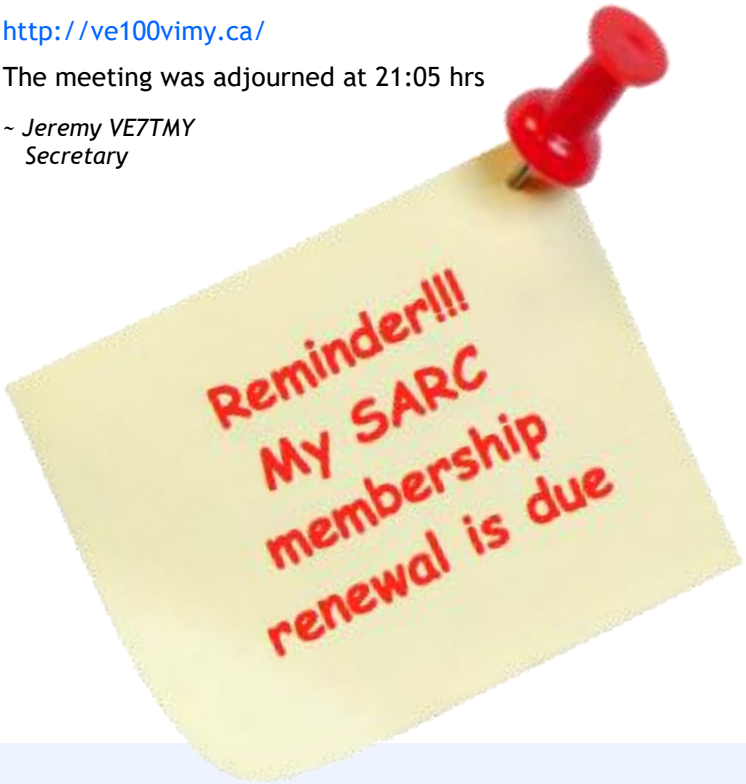
http://ve100vimy.ca/

The meeting was adjourned at 21:05 hrs

~ Jeremy VE7TMY
Secretary



Welcome back
Councilor Mary Martin



Current members will be removed from our mailing list if 2017-2018 dues are not paid by November 1st



Kalmar Koffee Klatch Reminder

The Surrey Weekly Koffee Klatch is on Saturday at the Kalmar Restaurant at 80th and King George Boulevard between 8 and 10:00 am. You don't have to be a SARC member to participate. Bring your significant other, bring your family, see old friends and have fun.

At The Last SARC Meeting

Don Studney VE7DS and Jeanne Wilson VA7QD

A Presentation on VImy100

TM100VIMY a Canadian commemorative Special Event Station marked the centenary of the Battle of Vimy Ridge, fought in nothern France in April 1917. On that occasion, Canadian soldiers fighting as a cohesive unit, succeeded in capturing this strategic point, which had resisted previous French and British attempts to take it. The TM100VIMY station is located within the Canada National Historic site on Vimy Ridge, France.





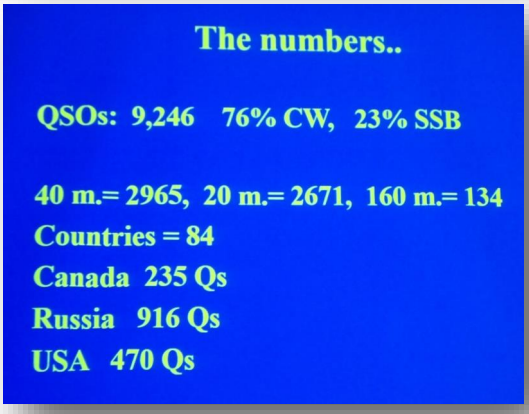




Photo credits: Jeremy VE7TMY





The long term significance of this victory was not a strategic one, but rather one of national identity. At the time, of WWI Canada was a Dominion of the British Empire, with no power to make its own foreign policy. Nonetheless, Canadian men had flocked to recruiting stations to support "Mother Britain". The Vimy success awakened a sense of national identity in Canadians which has been described as "the moment when Canada leapt in spirit from colony to nation".

After the Great War, France ceded Vimy Ridge to Canada and this parcel of 107 hectares (250 acres), at the top of the Ridge is now a Parks Canada National Historic site, dominated by the monument pictured above. The centenary of the battle will be marked by formal ceremonies on April 9th, 2017, which will be held at the monument's base, and be attended by Heads of State.

The shack, located about 1.5 km from the Monument, was on the air at 1500 UTC on March 31, 2017l and operated two stations 24 hours a day until dusk of April 9th. Modes were CW, SSB and RTTY on all HF ham bands. Rigs were K3s, KPA 500s with Spiderbeam yagis, verticals and dipoles. Seventeen operators covered three shifts per day.

Our Canadian call sign VE100VIMY, was activated 0000 UTC January 1, 2017 from Nova Scotia as "VE100VIMY/VE1" and continued from each Canadian call area, one week at a time until the end of March.

http://ve100vimy.ca/

Attention ARDF Fox Hunters

Amel Krdzalic

I hope you are all doing great. Here is the list of the upcoming ARDF fox-hunting events:

Oct-7th -> ARDF practice fox-hunt event, 80m at Gardner Park in Abbotsford, BC.

Please go to the http://www.ardf.ca site for more details. Registration for the event is required.

We had a great ARDF event in Victoria BC area last August. It was an 80m sprint event with 12 hidden transmitters. Many thanks to our friends from the Friendship Amateur Radio Society of Victoria for making this great event possible.

And last but not least… With the season for outdoor ARDF fox-hunting slowly coming to the end we are looking to start visiting clubs and doing presentations on ARDF. We will welcome invitations from those interested, and could provide a topic of your choice related to ARDF, starting from "how I started and what I have learned using ARDF" to topics like "how to build something ARDF related". We will assist you in preparation and presentation of your topic. Please let us know if you are interested. Lower mainland clubs are all interested in hearing what we are up to.



To those who recently joined us we wish you the warmest welcome. Thank again for all your support. Should you have any questions, comments or suggestions feel free to reply back and/or contact Les at va7om.les@gmail.com

~ Amel



Dear Executive Members of Surrey Amateur Radio Club,

On behalf of all the members of the Dundalk Amateur Radio Club, I would like to thank you all sincerely for taking the time to put pen to paper to express your sympathy for Tony's passing. It was such a lovely card to get, which is now in a place of prominence at our club house for all to witness.

Having personally known Tony for over 25 years, I have to say that the Amateur Radio fraternity in Ireland is missing his wit, his drive and his on-air antics so much. You may or may not know just how much time and energy Tony had put into the hobby, encouraging prospective licensees, giving theory classes at the drop of a hat, helping those newly licensed by loaning radio equipment to them until they became established, and so on. He was a very unselfish man indeed.

In his latter weeks, he never ever lost his fight and, above all, never lost his extreme wit. The last time I saw Tony was in hospital shortly before he passed away and we shared old stories of funny things that had happened over the years to our radio buddies, things that are still making me smile.

Tony had nothing but praise and admiration for the Surrey Amateur Radio Club, describing the activities of your club to us many times. The twining of our clubs was something that he felt so passionate about and he asked me to draft up a certificate for the same. We all had a common goal to achieve, and I truly hope we reached that goal.

To end, please share these sentiments firstly with your fellow Executive members whom I have not been able to find an email address for, namely John Schouten VE7TI and Robert Fishwick VA7FMR and secondly, with any other members of Surrey Amateur Radio Club as appropriate.

Once again, I would like to, on behalf of all the members of the Dundalk Amateur Radio Society, thank you all for your sentiments.

Tony will be missed for a very long time indeed and as we say in our native Irish tongue when someone we know dearly has passed...

"Ar dheis Dé go raibh a hanam..."

73 to one and all and continued success to all at Surrey Amateur Radio Club,

Brian Whelan
Chairman
Dundalk Amateur Radio Society





The Contest Contender

Fred Orsetti VE7IO

VE7RAC Available Until December 31st

After a successful operating format using both home and club stations throughout the Province of British Columbia taking turns at operating VE100VIMY, we have decided to repeat this with the VE7RAC station for the RAC Canada 150 Award program.

Volunteers are needed to activate the 14 RAC stations for the RAC Canada 150 Award. A schedule of activations is available on the RAC website as of July 30, 2017 and new volunteers will be added as the names are submitted.

Fred Orsetti, VE7IO, has organized the volunteers for the VE7RAC station. Contact Fred at ve7io@arrl.net to reserve an operating time slot.

More info at http://wp.rac.ca/rac150-ve7rac-operating/

Feedback was received on VE7RAC operations to date:

Good day Fred…

Just a short note to you and the "VE7RAC" team to thank you for the outstanding job you guys are doing with this event. Although I only need one contact I have heard you guys and you have been spotted all over the bands. I have listened many times… you have some very skilled operators as well.

I worked a VE5RAC station on the 12th but not sure it was legit or not! I have not even heard or seen spots for the VA3RAC on the lower bands. Need to encourage the RAC operators to self-spot or ask to be spotted.

I only wish other RAC operations could be as good as yours! Again great job to All!

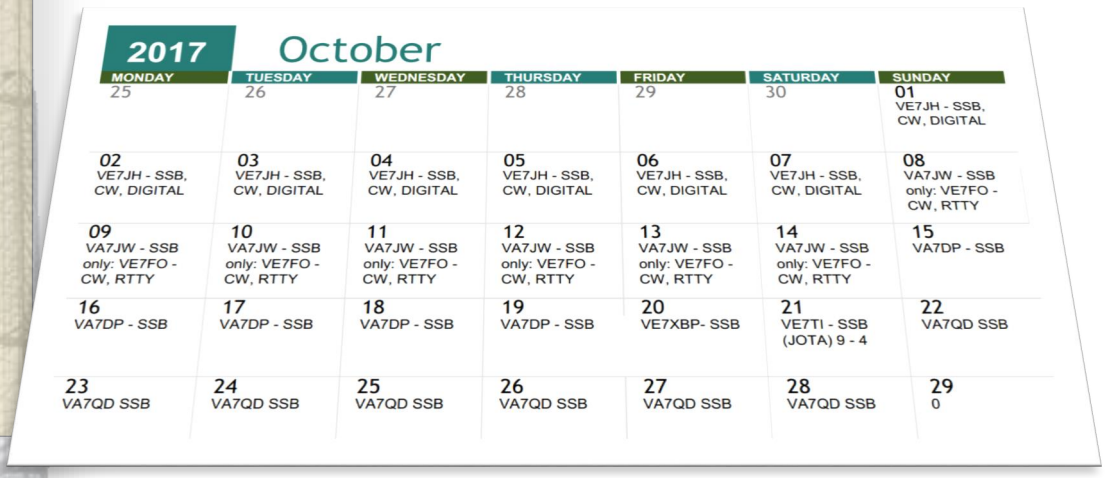
~ Curt VE3ZN & CG3ZN & X-VE7CDP

Good morning Curt thank you so much for your kind words for our operators, I am copying them on this email. Most of the operators on our team participated earlier in the Vimy recognition project and were again supportive of the Canada birthday event.

We will try to have VE7RAC available each week until the end of the year on as many bands/modes as we can. Conditions have been rather poor however but despite the missing bands we have been heard around the world. We will be on for the RAC winter contest from my home station, VE7IO, with VE7RAC as a M/M setup and hoping to work many VE's

Again, thanks Curt for taking the time to send along your thoughts and well wishes it is very much appreciated.

~ Fred VE7IO



Operations & Training Centre News

John Brodie VA7XB



One Step Closer

…a fuse did what fuses are supposed to do…

In anticipation of the work party on Sept. 17th, Stan VA7NF and John VA7XB had done some preparatory work on the 12 vdc, 110 vac and 208 vac power and RF connections at each of the operating stations and equipment rack. In addition, the ground bus was extended around the radio room to the VHF station and through the wall to the adjoining SEPAR room.

But… after a long summer of almost perfect dry weather, we almost waited too long to do the outside work at the OTC, as it began to rain heavily within an hour of completing the replacement of light-weight RG-58 with RG-213 coax on the Carolina Windom antenna. Thanks to Jan VA7VJ, Sheldon VA7XNL and Stan VA7NF for getting this task done efficiently.

The antenna installation included a choke balun made of several turns of coax inside several toroidal ferrite cores to suppress common mode currents on the feedline. The other end of the coax was affixed to the grounding panel on the roof, with strain relief applied at both ends. The wire antenna had to be trimmed by a couple of feet to raise the point of minimum SWR to within the 40 and 80 m bands.

Meanwhile, Steve VE7XSM was busy inside soldering new connectors on double-shielded LMR-400 coax to connect the patch panel with each of the radio positions. The objective is to have two runs of coax to each station so that the operator has the option of connecting to separate antennas for use in SO2R (single operator – two radios) contesting. This job is not fully complete.

Once this was done, the group turned its attention to making the changeover from 110 v to 208 v for the computers and monitors. Oops, one of the computers required flipping a switch at the rear to change from 110v to 208v. Since the switch was not flipped, fortunately a fuse did what fuses are supposed to do. Disassembly and repairs to the computer power supply were completed courtesy of Steve VE7XSM and Sheldon VA7XNL.

We're still waiting for the Flex 6600 delivery this Fall. The consensus seems to be that we should now spend our remaining funds on an IC-7610 for the second operating position. The OTC Committee will likely be asked very shortly to approve this expenditure.

~ John VA7XB









Request For Volunteers

2017 Pacific Forest Rally

Surrey Amateurs

My name is Geoff Hill; I am the volunteer coordinator for the 2017 Pacific Forest Rally, the 5th round of the 2017 Canadian National Rally Championship, which is being held on October 12-14, 2017. I would like to tell you more about this event, in the hopes that you or some members of your club would be interested in volunteering as Radio Operators.

Pacific Forest Rally is a sanctioned performance driving competition taking place on temporarily closed forestry roads surrounding Merritt, BC. The event needs amateur radio operators such as yourselves, who are crucial to the safety and success of the weekend. This is also an amazing opportunity to put your amateur radio skills & equipment in action, and see real cars, on real roads, driving real fast!

What you would be doing:

As radio operators, you would be stationed at the start and finish line of each closed road, or at blocker positions along the route itself, monitoring and controlling access at intersecting roads or high-risk areas. The primary roles of the radio operator are to help the event organizers track the progress of rally cars on the roads, to keep any civilians from entering the road during competition, and to pass along relevant information in the event of a crash or safety incident.

There will be a training and Q&A session for operators just before the event.

What we provide:

To reduce costs to our volunteers as much as possible, we try to provide free shared accommodation at the Best Western, Ramada, or Quality Inn hotels in Merritt. We also provide bag lunches during the event, and free admittance to the awards banquet and post event celebrations. When the budget allows, we do our best to provide shirts, toques, or other free swag to volunteers to show our appreciation.

What you need to bring:

Because this event takes place in late autumn conditions on dirt/gravel/muddy/snowy forest service roads, we advise proper winter or all-weather tires in good condition, a reliable vehicle with reasonable ground clearance, and reliable radio equipment that can run for multiple hours at a time on the power provided by your vehicle. It is good practice to also bring food, fluids, and anything else you might need for an extended stay outside. The event does run after dark, so headlamps and flashlights will come in handy. Finally, warm winter clothing and wilderness common sense are also important to bring along!

Where to sign up:

The Volunteer registration page for the event can be found here:

https://www.rallywest.com/signup/volunteer/PacificForestRally

For more information click these links:

- Introduction to Rally Volunteering (description of the radio operator role in particular can be found on page 6)
- Pacific Forest Rally Website
- Canadian Association of Rallysport (CARS) website
- Canadian Association of Rallysport YouTube channel with lots of videos showing rally cars in action

I humbly request your assistance to inform members of your amateur radio club of this opportunity. If you have any questions, don't hesitate to get in touch with me directly. Thank you for your time, I look forward to seeing you out on the stages!

~ Geoff Hill
geoff@rallybc.com
Volunteer Coordinator, Pacific Forest Rally 2017

Surrey Emergency Program
Amateur Radio



The SEPAR Report

Roger Andrews VA7VH - SEPAR Coordinator

October Update

Hello everyone. I'm taking the easy way out for this months Communicator article. While reading news about hurricane Irma, I came across an excellent story on the ARRL website. With the permission of the author (ARRL) I am redistributing it to you.

The reason I chose to do this, is that the content of this news piece gives a clear picture of not only the damage of Irma, but also how valuable Amateur Radio can be in a disaster. It also shows how different communication modalities can work well together – for example follow the VOIP Hurricane link in the ARRL article.

Please take the time to also go to the SARnet link found in the article. This is a truly interesting system and I wish we had here. It reminds me of the old IPARN (Inter-Provincial Amateur Radio Network) that once existed in the 90's:

Amateur Radio Volunteer Response Continues to Historic Hurricane Irma

09/11/2017

"We have survived Hurricane Irma." That assessment came this morning from ARRL West Central Florida (WCF) [http://arrlwcf.org] Section Manager Darrell Davis, KT4WX, who reported that the storm's eye passed over the Hardee County emergency operations center just before midnight EDT on September 10. (Davis also is the Hardee County Emergency Coordinator). Irma has now been downgraded to a tropical storm, but flooding remains a threat as the storm's remnants move inland. Davis said he was grateful for the Ham Aid [http://www.arrl.org/ham-aid] equipment — four hand-held transceivers and one mobile transceiver — that ARRL sent to Florida as the storm threatened the peninsula last week. After hitting the Florida Keys, Hurricane Irma made landfall near Naples, Florida, on September 10 at around 2100 UTC as a Category 2 storm.

No one is standing down just yet, however. Davis said his section, which includes the City of Tampa, will have a conference call this afternoon and an ARES net this evening "to assess any unmet needs by our ARES groups in our Section." Thirty Florida counties were under mandatory evacuation orders. As of today, FEMA reports that 586 shelters are open, housing some 192,000 occupants. FEMA also reported that more than one-half of the state's customers — some 5.7 million people — were without electrical power as of early this morning.

Over the weekend, a Regional SKYWARN Net [https://www.weather.gov/skywarn/] was active in the West Central Florida Section to gather severe weather reports, and Florida's Statewide Amateur Radio Network (SARnet) [http://www.sarnetfl.com] was running a coordination and assistance net to help communicate between the county EOCs and the State EOC and to provide

assistance to Amateur Radio operators in other ways, time permitting. The priority during the weekend was tactical shelter communication, EOC communication, and SKYWARN nets as Hurricane Irma approached. At one point, Pascoe County in the WCF Section put out a call for Amateur Radio support, seeking 20 volunteers with their own equipment.

"At our own EOC, the data from APRS stations was very important to our decision makers in the EOC to allow Fire and EMS back on the road, post storm," Davis reported. "Our repeater went off the air due to power failure. I went to reverse and listen to the repeater input and transmitted on the output and we maintained communications through the storm."

Davis said the Ham Aid mobile transceiver went to the area's special needs shelter at a local community college, primarily due to the fact that a handheld's signal was hampered by the building.

The Hurricane Watch Net (HWN) remains in operation, reported Net Manager Bobby Graves, KB5HAV. "Considering the path of destruction caused by Irma, many areas, especially the islands, are just now beginning to get HF communications somewhat restored," Graves said in his 1000 UTC update. "In addition to collecting post-storm damage reports, we will be calling and listening for stations who have been affected by Irma with emergency and priority traffic." He anticipates that nets such as the HWN will "be busy for days" handling health-and-welfare, emergency, and priority traffic.

"Please, don't drop your guard on Hurricane José," Graves added. "Over the next few days, this storm is expected to make a loop and perhaps affect the Turks and Caicos Islands, Bahamas, Cuba, and South Florida by the weekend."

If it's September, it must be CN Day.

Every year CN Rail opens their Thornton Yard in North Surrey for an open house. SEPAR was there again this year as part of the community safety displays.







Surrey Emergency Program Amateur Radio

As if Earth's weather was not bad enough already, an X-class solar flare severely disrupted HF communication on Sunday at around 1600 UTC. Graves said the widespread communication blackout lasted for nearly 3 hours, "which could not have happened at a worse time," he added. "But, we cannot control Mother Nature, only work around her."

The Hurricane Watch Net remains operational on 14.325 MHz during the day and on 7.268 MHz after dark.

The VoIP Hurricane Net [http://www.voipwx.net/] activated over the weekend to track the impact of Irma as well as of Hurricane Katia, which made landfall on the coast of southeastern Mexico. The activation was expected to continue through September 11.

Puerto Rico fared better than had been expected. "We were lucky that all we got were tropical storm winds," said Puerto Rico Section Public Information Coordinator Angel Santana, WP3GW, adding that the storm did down some trees on the island. While electrical power has been up, there is still no water, Sandana said.

"Some repeater systems did operate without problems, and, besides reports on Irma's route, many were indicating local conditions," Santana said. "Our Section Emergency Coordinator remained in contact with the Red Cross," he said, and on September 9, volunteer radio amateurs went to the island of Culebra to establish HF communication there so they could keep in touch with the Red Cross office in San Juan, where ARRL Puerto Rico Section Manager Oscar Resto, KP4RF, was stationed. More than 350 Puerto Rico residents took advantage of Red Cross shelters, and about 150 evacuated to shelters in the US Virgin Islands.

Santana said the Friendly Net and Caribbean Emergency Radio Net were fairly active, and on September 10, 1,000 refugees from St. Martin were brought to Puerto Rico

The Great BC Shakeout

Thursday October 19th @ 10:19 - The Great BC Shakeout

On October 19 at 10:19 a.m., millions of people worldwide will practice how to "Drop, Cover and Hold On" during Great ShakeOut Earthquake Drills.

SEPAR is participating again in this yearly event. We will of course have net control on the Surrey Repeater 147.360 MHz +600kHz and a tone of 110.9. at exactly 10:19 hrs (10:19 AM)

We will also monitor our primary simplex frequency of 146.550 mhz and people should check-in there as well.

This year we will also go back to doing Winlink check-ins. so please send an NTS message to VE7HME. If you are unable to do Winlink by radio, you can also send a check-in by email. All Winlink check-ins must have the following subject line:

//WL2K R/Great BC ShakeOut

While proper NTS messages would be preferred and good practice, all messages will be counted.

We will also like to do D-Star check-ins on VE7ICM.

The Drill will take place on multiple frequencies.

Main: VE7RSC Repeater 147.360+ Tone 110.9

D-Star VHF: VE7ICM RPT-C 145.040+DV

D-Star UHF: VE7ICM RPT-B 442.000+DV

Winlink: Message your checkin to VE7HME

Weekly Nets

Every Tuesday evening at 1930 hrs (7:30pm PDT) we start a ½ hour NET on a local repeater provided by the Surrey Amateur Radio Club (SARC) on 147.360 MHz +600kHz and a tone of 110.9. There may be a simplex test or a test NTS message transmitted during the NET at the Net controllers discretion. This is an excellent opportunity to practice sending and receiving this form of messaging. Besides, it adds a little spice to the regular check-ins on the net. Please join us. NTS Radiograms can be found on the SEPAR website here, or, if you would like a fillable PDF that you can enter on your computer, you can get it from here.

Thursday nights at 19:30 hours, This Net has changed! We are no longer doing a regular 2 meter simplex Net on this night. Any plans for Thursday night will be announced on the Tuesday before. This night will now be used for optional tests. For example NTS Digital exchanges, 6 meter, 2 meter 60 cm and 220 Nets. If someone wants to do a particular net on a Thursday, then please announce it on the Tuesday before.

~ Roger VA7VH

Emergency Comms

Ham Radio Making A Difference

Help is Requested for Puerto Rico

This morning, I received a message from a friend. Knowing that I'm an amateur radio operator, she asked if I could contact someone in Puerto Rico and verify that her friends' family are safe-no one has heard from them since Hurricane Maria hit the island.

The situation in Puerto Rico (and many other islands in the path of Maria) is bleak. CNN describes the devastation as "apocalyptic."

At the moment, amateur radio is one of the only ways communications are being established on the island. The ARRL has taken the unprecedented move to ask operators to volunteer for the relief effort on behalf of the American Red Cross. Here is the ARRL media release:

American Red Cross Asks ARRL's Assistance with Puerto Rico Relief Effort

Source: ARRL News

The American Red Cross (ARC) has asked the ARRL for assistance with relief efforts in Puerto Rico. ARC needs up to 50 radio amateurs who can help record, enter, and submit disaster-survivor information into the ARC Safe and Well system. In the nearly 75-year relationship between ARRL and ARC, this is the first time such a request for assistance on this scale has been made. ARRL now is looking for radio amateurs who can step up and volunteer to help our friends in Puerto Rico.

Requirements

- There are very specific requirements and qualifications needed for this deployment.
- Due to the nature of this deployment you will need to process in as ARC volunteers. This includes passing a background check. The ARC has indicated that it will cover all expenses for transportation, lodging, and feeding while on deployment. ARC will also provide liability coverage for volunteers. The only out-of-pocket expense to the volunteer would be personal items purchased during deployment.
- ARRL and ARC will require training for volunteers being deployed. ARC will provide general deployment training and advanced training in working in austere environments. ARRL will provide to ARC training on Amateur Radio equipment and modes to be used, reporting guidelines, and operating guidelines.
- Deployment will be for up to 3 weeks.

Qualifications

- General class Amateur Radio license or higher
- Familiarity with WinLink, HF voice, and VHF simplex communications
- Strong technical skills



...At the moment, amateur radio is one of the only ways communications are being established on the island.

- Ability to work under difficult conditions
- Ability to deploy for up to 3 weeks
- Ability to work as part of a team
- Helpful Skills
- Spanish language skills
- Previous experience in disaster response
- Previous or current work as a Red Cross volunteer
- Previous experience with shelter operations

If you feel that you meet these qualifications and would like to be considered for this deployment, please contact ARRL Emergency Preparedness Manager Mike Corey, KI1U (860-594-0222), who will make the introduction of qualified volunteers to ARC.

Here's hoping all of our friends and families are safe and that some order is restored to Puerto Rico and surrounding islands very soon.

~ *ARRL*



Our contesters scored another big win at the BC QSO Party.

Congratulations!

Scouts Jamboree On The Air

John Schouten VE7TI

Looking for Volunteer Operators
Saturday October 21st

JOTA-JOTI is the largest Scouting event in the world with over 1 million Scouts participating across 150+ countries.

The event is held the third weekend of October – 20th, 21st & 22nd October 2017 – Celebrating 60 Years Connecting Scouts.

This year, JOTA-JOTI will be held on the 20th, 21st & 22nd of October. The event is celebrating 60 Years connecting Scouts. In Surrey we will be hosting the Scouts at our Operational Training Centre with two HF stations and, if necessary our VHF-UHF stations and digital connectivity. We will activate on Saturday, October 21 from 1000-1500 hours.

We hope to have sufficient operators to do the following activities, similar to what the school visits in the past. Depending on the number, we will split them into 4 or 5 groups that would rotate through stations:

1. Group 1 starts at station 1: A basic intro to radio, what it is, how it works;
2. Group 2 starts at station 2: Morse Code practice, learn what CW is, practice sending their name on a practice key;
3. Group 3 starts at station 3: Digital messaging. Send a message via radio (WinLink) to their own email address;
4. Group 4 starts at station 4: Handheld communication between two stations outside. This may be replaced by a mini foxhunt if we can get the gear and bodies, weather permitting;
5. Group 5 at station 5: HF Contact; hopefully with another Scout group. We hope to have at least 2 active stations.

About the Event

The Jamboree on the Air, or JOTA, is an annual Scouting event that uses amateur radio to link Scouts around the world, around Canada, and in your own community. Held on the third full weekend of October each year, this worldwide jamboree requires no travel, other than to a nearby amateur radio shack, Scout meeting place, camp or community center.

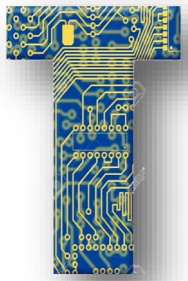
JOTA started in 1958 (with the World JOTA Bureau located right here in Canada). In 1997, communicating through the internet was added, and this was called Jamboree on the Internet or JOTI for short. Both annual events are sanctioned and sponsored by the World Organization of the Scouting Movement.

In short, it's the best way to talk to half a million Scouts and Guides without having to leave your own community! More information at: http://www.jota-joti.ca/

As SARC-SEPAR coordinator for the event I am looking for several volunteers. If you are able to assist, please send an email to communicator@ve7sar.net

~ John VE7TI





Tech Topics

Jeffrey Bail NT1K, Allen Lowe N0IMW and Other Contributors

Construct A Dual Band Aluminum J-Pole

The original design came from the Arrow Antenna open stub J-Pole which is made and sold by Allen Lowe (N0IMW) for US$49. *http://www.arrowantennas.com/osj/j-pole.html*

If you do not have the skills or desire to do this as a do-it-yourself project, please consider purchasing from the originator.

The popular J-pole antenna, more properly known as the J antenna or slim-jim, was first invented by Hans Beggerow in 1909 for use in Zeppelin airships. Trailed behind the airship, this concept evolved to the J configuration by 1936 attaining the name J Antenna by 1943. J antennas come in varies forms, including solid aluminum, copper pipe, wire and twin-lead.

The J-pole antenna is an end-fed omnidirectional half-wave antenna that is matched to the feedline by a quarter wave parallel transmission line stub. Matching to the feed-line is achieved by sliding the connection of the feedline back and forth along the stub until an impedance match is obtained. Being a half-wave antenna, it provides gain over a quarter-wave ground-plane antenna.

More on the J-Pole concept at https://web.archive.org/web/20140424210603/http://w4rnl.net46.net/sj.html

Parts Needed

- Radio Shack # 21-961 3/8"-24/SO239 Mount (Mobile CB Antenna), or similar;
- Radio Shack # 15-826 TV Mast U-Bolt Clamp Assembly, or similar;
- About 85 inches of 3/8" diameter Solid Aluminum Rod;
- 5 1/2 inch piece of strut angle Aluminum 1 1/2" X 1 1/2" X 3/16"
- 4 Stainless Jam Nuts 3/8-24 thread (or 3/8-16)

Tools Needed

- Drill Press with drill Bits up to 1/2";
- Tap & Die for 3/8-24 thread;
- Sander or file to de-burr the cut edges;
- 9/16 wrenches & a 3/4 wrench;
- Vice-grips;
- Saw

Procedure

Make sure the piece of angle Aluminum is exactly 5 1/2 inches long. Precision is important! In any of these measurements, you may wish to cut a bit longer and then grind or file to exact size. Drill two 1/4" holes on one side, centered to fit the U-Bolt for mounting. On the other surface of the angle, measure in 1/2", 1 7/8" and 5" in from left side and drill 1/4" pilot holes. Enlarge the first of the pilot holes to 1/2" for the antenna mount. Enlarge the second and third of the pilot holes to 11/32" then tap the holes with a 3/8-24 tap or 3/8-16.

Finish as required.

Cut a piece of the 3/8" Aluminum rod to about 20". Attach a vice-grip to one end. Using a 3/8-24 die cut in about 8 threads in the other end. Screw on the Coupling Nut that came with the SO239 Mount. Tighten as much as you can. Measure the rod & coupling nut & cut to exactly 19 1/4".

DUAL BAND J-POLE 144/440Mhz

Orginal Plans By: Allen Lowe (NØIMW)

Simple to create yet effective 144/440 Mhz Antenna.

Materials Needed (Refer to parts list below)

- 8ft (96in) of 3/8" Aluminum Rod
- 1 5-1/2" of Alumium Angle (1-1/2"X1-1/2"X3/16" THICK)
- 1 SO-239 Female to 3/8"-24 Thread (Available At Radio Shack)
- 4 3/8"-24 Stainless Steel Nuts
- 3 Pliable Vinyl Caps (Optional)

Tools Needed (Basic Version)

- Tape Measure (Vernier/Caliper prefered)
- Marker (Automatic center punch prefered)
- Drill W/ Drills bits (up to 1/2")
- Saw (Hacksaw or Bandsaw with metal blade)
- File And/Or Sandpaper
- 3/8"-24 Tapping Die (With holder)
- 3/8"-24 Tapered Tap (With holder)
- Vise Grips with protective caps (Can use a rag instead of caps)

Instructions (Instructions are not exact, please use good judgement and saftey)

1.) Using your measuring device and marking device layout the holes on the angle as shown on page 2.

2.) Drill the holes to 1/8" as pilot holes. Then drill to hole sizes listed on page 2. If your using a different SO-239 Than what is listed here. please check the dimension of the plastic washer that fits into the angle and check it's size (it might differ from each manufacture) If different please change the 1/2" hole to the proper size for the plastic washer to fit snug.

3.) Use the 3/8"-24 Tap and thread the two smaller holes in the angle

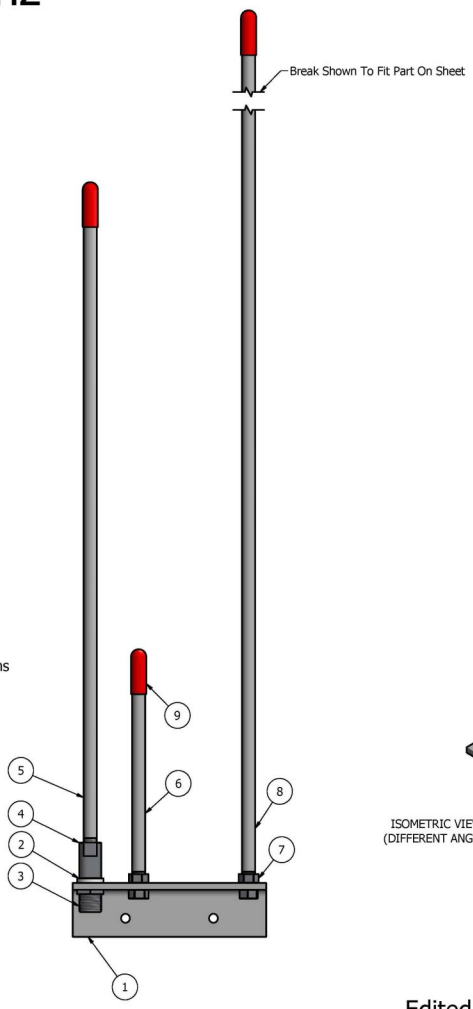
4.) Using the saw cut the aluminum rod to the dimensions of 58", 18-5/8" and 6-3/4" These Dimensions Might vary a little bit depending on the Jam nuts that are being used.

5.) Using the threading DIE, Thread the ends of the aluminum rod to around the dimensions listed on page 2. Try not to over make the threads.

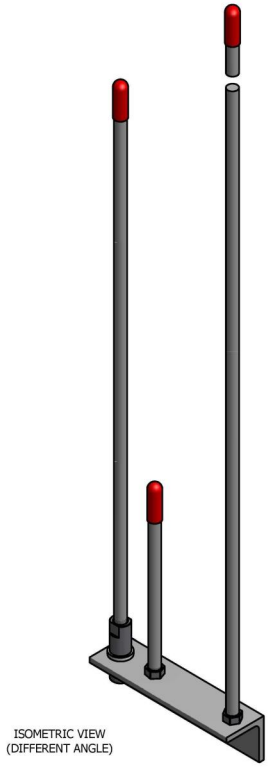
6.) Using a file/sander to take off any sharp edges or metal burrs.

7.) (Optional) Place protective caps over the 3/8" Rods

8.) Assemble the antenna to the pictures shown. Maintain lengths of rod to the dimensions shown



VIEW1
SCALE 1 / 2



ISOMETRIC VIEW
(DIFFERENT ANGLE)

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	5-1/2" ALUM ANGLE	1.5X1.5X.188 ALUM ANGLE
2	1	SO-239 SPACER	Plastic Spacer
3	1	SO-239-STUD	UHF W/ 3/8"-24 STUD
4	1	SO-239-COLLAR	3/8"-24 Threaded Coupling
5	1	19-1/4" Alum Rod	3/8" Rd. 19-1/4" Long Alum Rod
6	1	6-1/4" Alum Rod	3/8" Rd. 6-1/4" Long Alum Rod
7	4	3/8" SS NUT	3/8"-24 Stainless Nut
8	1	57in Alum Rod	3/8" Rd. 57-1/2" Long Alum Rod
9	3	Optional Protective Cap	Red Protective CAP

Edited By: Jeffrey Bail - N1BMX
Http://www.N1BMX.com

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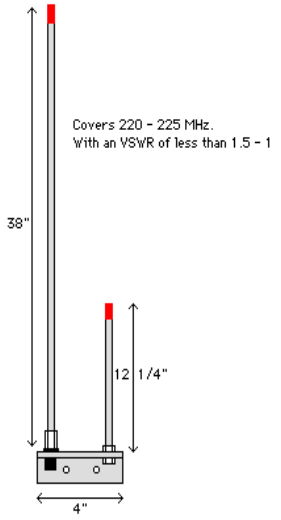
Cut a piece of the 3/8" Aluminum rod to about 60". Attach a vice-grip to one end. Using a 3/8-24 die cut in about 14 threads in the other end. If you don't have jam nuts, cut enough threads for 2 nuts & the thickness of the angle bracket. Screw on one of the jam nuts & tighten as much as you can. Measure from the bottom of the nut and cut the rod to exactly 57 1/2". Remember the nut must be included in the measurement. Repeat for the 6 1/4" long 440 element. Put a small amount of grease on the threads. Screw the element into the threaded hole and tighten. Screw on the other nut and tighten it. Attach the 19 1/4" element in the 1/2" hole using the rest of the SO239 Mount.

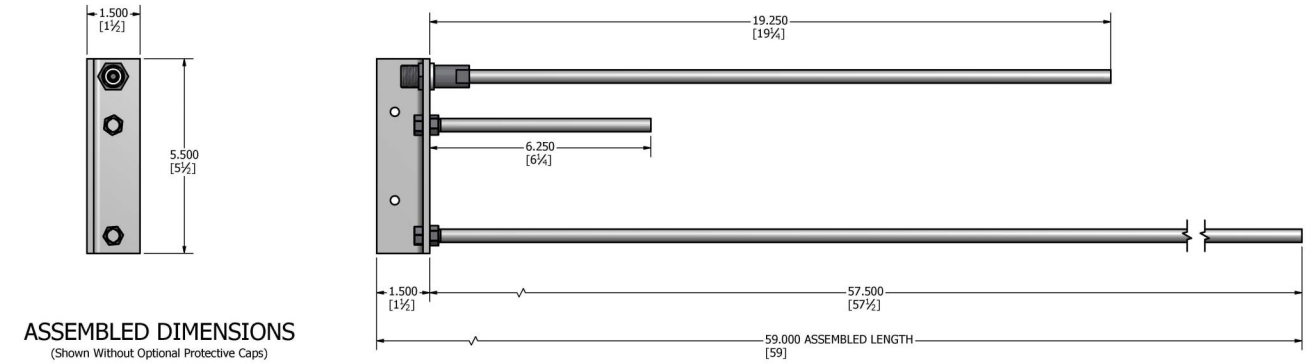
Testing

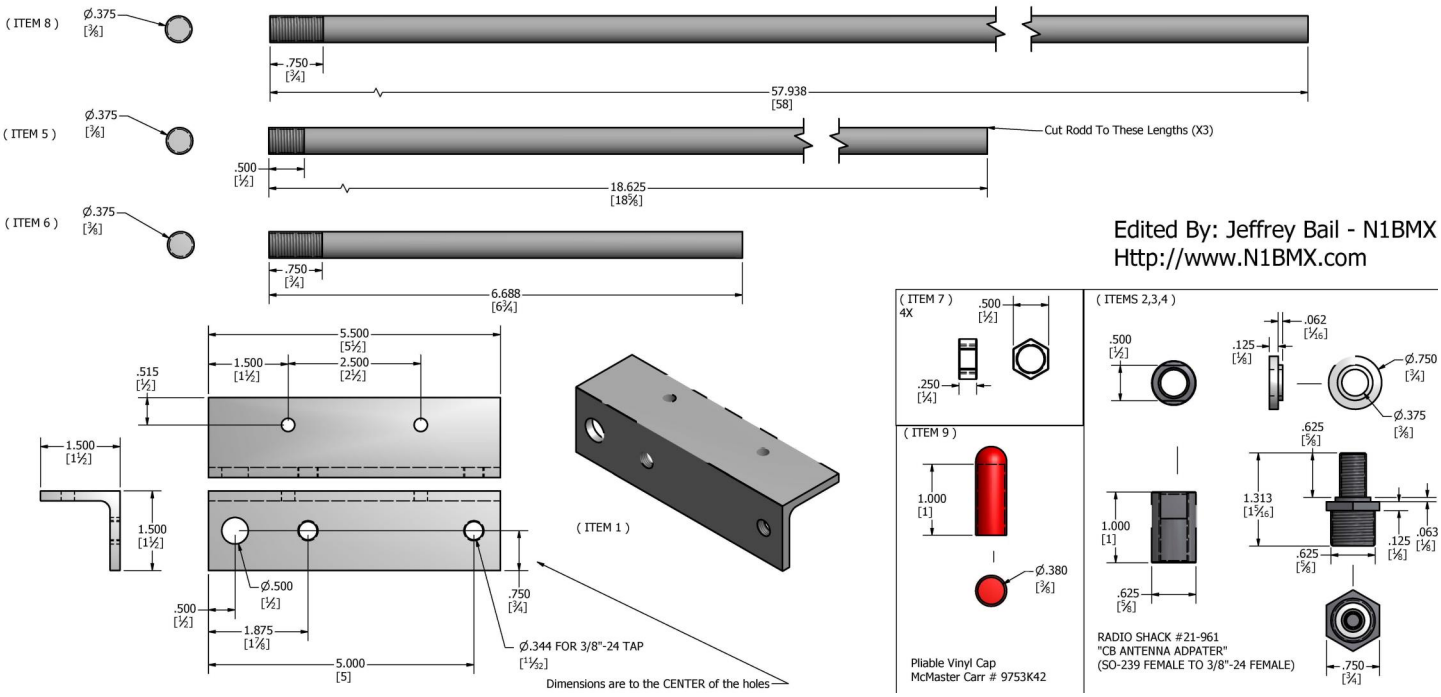
Mount & test your new antenna. SWR should be < 1.2-1 at 146 MHz and <1.4-1 at 144 &148 MHz. SWR should be < 1.2-1 from 440 - 450 MHz.

Redundant Test

Remove the 57 1/2" element, there should be no change of 440 performance.







Edited By: Jeffrey Bail - N1BMX
Http://www.N1BMX.com

SWR on two meters will be high. Reinstall, then remove the 6 1/4" element. No change of the two meter performance should occur. SWR on 440 will not change much but the performance will.

Here is a Step-By-Step video with me stammering on. Getting a little bit better every time I make a video.

https://youtu.be/PR8r-5jkygY

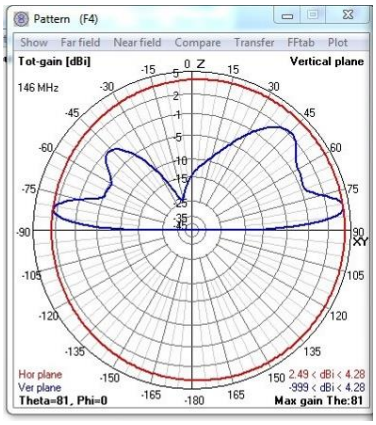
Antenna Gain, Pattern and NEC data

Some people were curious as to what the gain and pattern is of this antenna is.

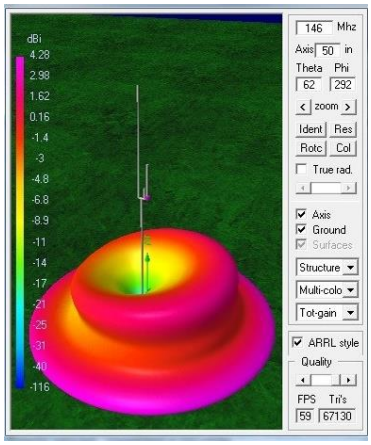
Arrow Antenna basically said they weren't posting figures as competitors use gain as a marketing ploy and inflate numbers. However they did publish the patterns. I've tried to model the antenna in 4NEC2 without much luck. What I was inputting into NEC was nothing near comparable to what I and some others have measured. Thankfully I wasn't the only one who was having issues modeling a J-Pole. C Bronson Crothers (AA1ZB) has talked about modeling the J-Pole and wrote quite a bit about it. Carol Milazzo (KP4MD) took it a step further and modeled the Open stub J-pole.

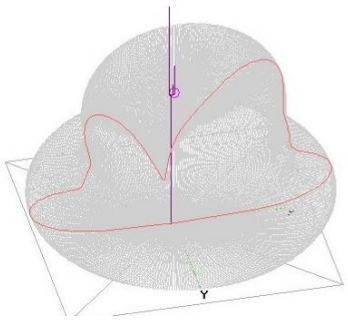
She modeled the antenna in various situations (mounted to mast, free space, free space with ground) and even published the NEC files for all to see. I'd strongly suggest to check out her website for the NEC files and other information that has helped me along in the hobby.

I took the files and messed around to see what happens.



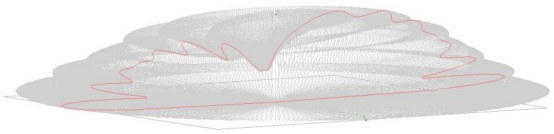
Depending on the height about ground, your looking at anywhere between 3-7dBi (or .85dbd-4.85dBd) gain according to NEC Data. In the perfect world, if that antenna was fed with 50 watts, it would effectively radiate anywhere from 60 to 150watts. But that is in the perfect world which we are not in. Things like the type and length of coax used, connectors used, nearby structures, type of ground and a bunch of many other variables factor into how well an antenna performs.





In the antenna gain world you will see dBi and dBd depending on the manufacturer. You just don't measure Decibels. In this case it's used as a reference against either an isotropic antenna (dBi) or against a dipole (dBd). So if you see antenna readings in dBi, it's in reference to a theoretical perfect antenna that radiates evenly in every direction. If you see dBd, the antenna is being compared against a half-wave dipole antenna. The difference between dBi and dBd is 2.15. dBd is comparison against an actual antenna. Some hams confuse dBi and dBd and some manufacturers confuse the buyer by not telling you the reference (It has 9dB of gain!!). Most manufacturers use dBi as it's a bigger looking number. Just subtract 2.15 and you will know the gain compared to a half-wave dipole.

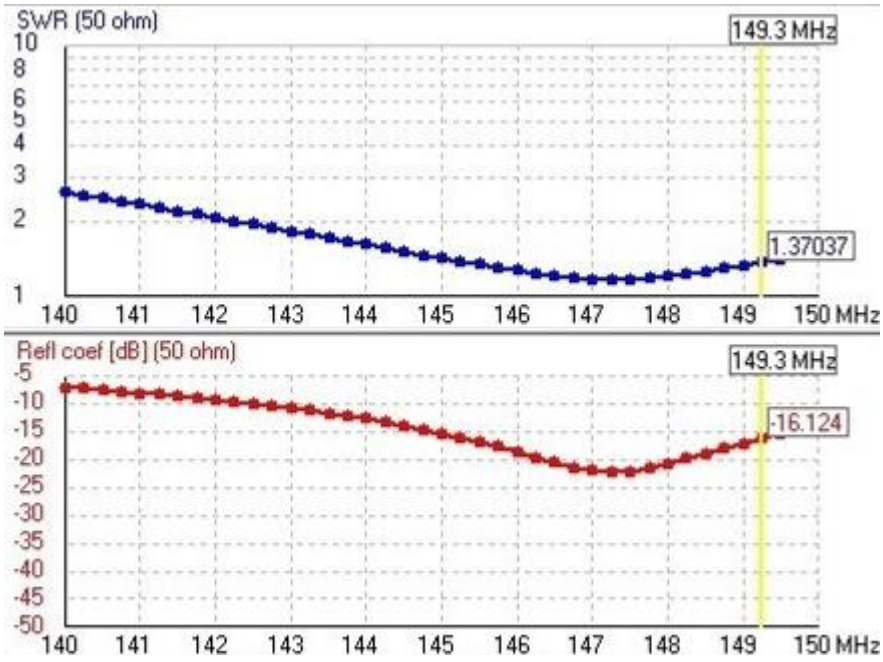
I bring up dBi vs. dBd gain for the reasons why Arrow Antenna doesn't want to talk about it. An antenna shouldn't be just about gain. It should factor in your shopping but you honestly won't really know how an antenna will perform until you get it in the at. There are times I hear that the J-pole is no different than a dipole or even a ground plane which is not true. This particular antenna has some gain. It's not as high when compared to the claims of large scale antenna manufacturers but considering the materials used, ease of assembly and use, I think this is a really good antenna. Okay, now that I am done ranting… let's look at the pattern



This is a 3D wireframe of the pattern (in gray) with an outline of the vertical polarization. The antenna is pretty much Omni-directional Horizontally. Vertically, the focus of energy is between 15 and 85 degrees. It would be ideal to mount the antenna above the roof line or at least 10ft off the ground as the signal radiates more from the side. This antenna wouldn't really be ideal for Sat use as there is a huge null and less gain when looking towards the sky.

SWR and analyzer results

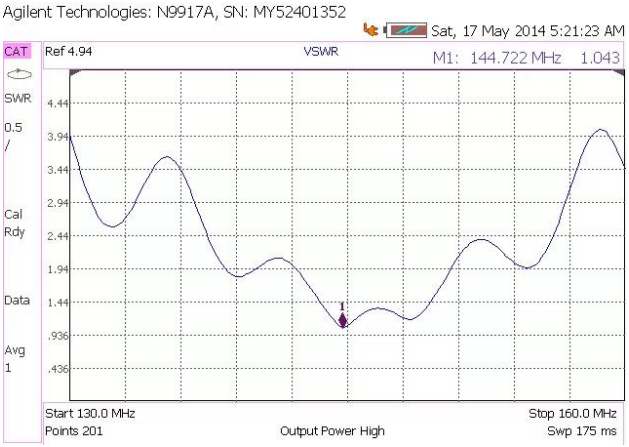
SWR plays an important role as well. If the antenna is not correct, some of the power sent to the antenna will come back to the radio.

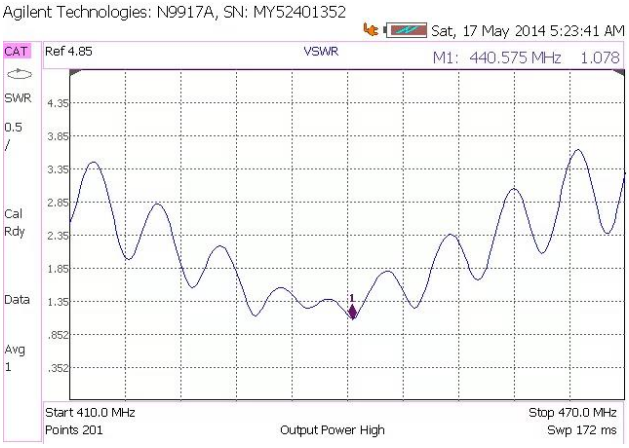


Modern rigs can see this and if too much power is coming back, the rig will step down in power to prevent damage to the finals. This usually happens if the SWR is above 2:1 or 3:1 depending on the rig. We need to get the SWR of this antenna down to 1:0 as possible. If this antenna is fabricated and assembled correctly, there should be little concern about SWR but it's safe to make sure and check before using or even installing it

The graph on the left is what 4NEC2 Predicted On the VHF Side. By looking at the blue line towards the top of the image, you will see that it has excellent SWR throughout the 2M band.

On the right is a plot of the antenna installed. VHF is on top and UHF below. You will see that the antenna is usable from 135MHz to around 155MHz. It's a nice wide band antenna and you will see how it differs from what 4NEC2 Predicted. But it's not far off.





Known Issues

Even though I did not design this antenna, I often get e-mails from people who had trouble with this particular antenna. I helped troubleshoot a lot of the issues and found out that the majority of problems were in result of the person not following the instructions as listed on either my or Mr. Lowe's prints. Most common mistakes were people cutting the lengths short or people substituting the materials called with others. For those living in the rest of the world, I know you might have trouble trying to find SAE/Imperial material and will substitute 3/8" with 10mm rod and hardware. I am not sure if they make a Metric SO-239 to 10MM adapter. But I've heard from multiple people that it works with 10mm.

Another common mistake is when it comes to testing. Testing should be done with the antenna installed or at least mounted to a pole to simulate an installation. Some people were laying the antenna on the ground, holding it with their hand or placing it against large metallic items (like a car) which will produce different readings. You won't know how it performs SWR wise until you have it installed. Even though it's rare, be prepared to install and remove the antenna multiple times while taking readings.

RAC News

Canada C3 Expedition

A Canada 150 Signature project, Canada C3 is a 150-day expedition (June 1 to October 28) from Toronto, Ontario to Victoria, British Columbia via the Northwest Passage. The journey is divided into 15 legs and as of September 1, the Polar Prince is on Leg 10 and is currently travelling along the Nunavut coastline heading towards Kugluktuk, formerly called Coppermine.

The Nunavut Tourism website describes it as follows:

Kugluktuk is the western most community in Nunavut. It is located north of the Arctic Circle on the Canadian mainland at the mouth of the Coppermine River where it feeds into Coronation Gulf, which is part of the Northwest Passage. Situated near the border with the Northwest Territories, the scenic valley of the Coppermine River was an ancient source of copper for the Inuit people. It has a unique microclimate that extends a narrow band of stunted boreal forest trees northwards toward the Arctic Ocean. 'Kugluktuk' means 'place of moving water' and the root word 'kugluk' means 'waterfall.' Upriver from this hospitable hamlet is the beautiful Kugluk cascade, also known as Bloody Falls, an ancient fishing and hunting location that is now a territorial park of historic cultural importance."

Below is the online route map as of September 1 that is produced from the position reports provided by the network Amateur Radio receivers (see http://www.qrp-labs.com/c3.html).

The total distance travelled from the start of the journey on June 1 is 15,812 kilometres. The daytime reception reports increasingly rely on the Western Stations for uploading spots to WSPRnet.org. As described in the background information below the location and frequencies for the WSPR, CG3EXP, may be viewed online at: http://wsprnet.org/drupal/wsprnet/map

On June 29, the CG3EXP beacon was received in Japan, the first Asian continent report.

Graham, VE3GTC, has undertaken a detailed report on the CG3EXP beacon reception characteristics and reporter stations. A full report will be published towards the end of the Expedition.

As of August 31, 2017, there have been a total number of 1,899 unique reporters reporting on CG3EXP WSPR contributing to a running of 319,000 spots since the Polar Prince departed Toronto.



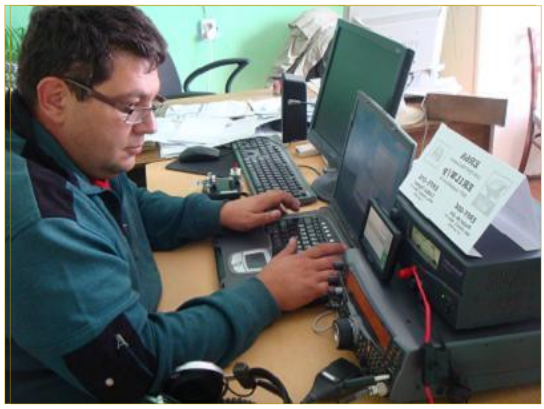


Radio-Active

John Brodie VA7XB



Profiles of SARC Members



Veaceslav (Slawa) Lisii, ER1LW and now VE7LWW

Veaceslav (Slawa) Lisii, ER1LW and now VE7LWW, is SARC's newest member, having passed the basic exam in July with an amazing 99% score and the advanced exam with 92%, including CW endorsement.

We first met Slawa at our June 2017 Field Day, where he showed up at the CW station and, after a brief orientation to the radio and software (in Russian) by Mike VE7ACN, immediately commenced to demonstrate his contesting prowess.

As an operator he has collected an amazing number of prestigious awards including DXCC Honor Roll (#1 in Moldova), 5BDXCC, 6 meters DXCC (#1 in Moldova), DXCC 160 m (#1 in Moldova), DXCC on 10 bands (first in Moldova), WAC on 10 bands, 5BWAZ, WAE TOP (#1 in Moldova), EU-DX-D-1000, Europa-300 etc.

Slawa has only been in Canada for a couple of months, having recently arrived from the Republic of Moldova with his wife Irina Lisaia and 19-year old daughter Tatiana Lisaia but without his 26-year old son, Maxim Lisii, who remained behind in Moldova.

Slawa has been involved in amateur radio since 1984, first as RO5OCN, later UO5OLW, ER1LW and ER6A (in contests). He is particularly adept in construction of antennas, amplifiers and transceivers – his home-made projects include an impressive array of amateur radio gear, some of which can be viewed on his personal website (in Russian): http://er1lw.ucoz.net/.

The immediate objective of the family members is to improve their English language skills as they get settled into life in Canada. Once his fluency in English improves, Slawa hopes to get a job in the field of radio and communications. After completing 9 years of technical school and university in Moldova, he owned a distribution, installation and repair centre for Kenwood, CTE International, Garmin, Alinco, Dragon etc. His wife is also a communications engineer, specializing in telephone equipment.



Taking the opportunity to learn something of the geography and history of Moldova, I gleaned the following information from Wikipedia.

The Republic of Moldova is a landlocked country in Eastern Europe bordered to the west by Romania and to the north and east by Ukraine and, to the south by way of the disputed territory of Transnistria. The capital city of Moldova is Chisinau. In 1991, as part of the disintegration of the Soviet Union, Moldovia declared independence. Due to a decrease in industrial and agricultural output following this event, the service sector has grown to dominate Moldova's economy but the country is recognized for the high quality of its wines. Moldova is a member of the UN, Council of Europe and the World Trade Organization and aspires to join the EU.

We heartily welcome Slawa to our club and are confident that all members will do whatever they can to help him feel at home in his new country. We look forward to learning much from his expertise in radio construction projects and his other esoteric amateur radio activities. Slawa is definitely on our list as a CW operator for our next DX contest!

~ John VA7XB













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John Brodie VA7XB

I'm Glad You Asked



At the last general meeting, Sheldon VA7XNL requested that members express their thoughts on how future field days could be improved. Well, I have participated in FD planning and execution for the past 15+ years, so here are my recommendations.

FD should be simple, i.e. not so demanding of time and resources that the few who do most of the work get burned out and say "never again". Frankly, this has happened to most of the senior members who now are reluctant to take on the job of FD coordinator for that reason. We all have other things going on in our lives, and it is too much to expect that we devote months of planning to FD.

It is important that FD appeal to all levels of expertise but, in my opinion, it should be an opportunity to demonstrate our skills, not to train. For that reason, we should always strive to maximize our score, or even win. I suggest we allocate 20% of operating time to the rookies who, if operating during the less busy times, will not be so intimidated by the experience. By "rookie" I do not mean an absolute beginner but one who has demonstrated that he is sufficiently motivated to advance his skills, i.e. by participating in at least one contest ahead of time.

FD can be both a social occasion and a competitive event – they are not mutually exclusive. Those who are not involved in operating can enjoy the experience in numerous other ways. We should do all we can to encourage a member(s) to take on the task of meal preparation as a focus for social interaction.

Winning doesn't mean we have to take on every activity that earns bonus points. Time has proven that some activities simply are not worth the effort. Keeping it simple means abandoning those aspects of FD that involve inordinate amount of work compared with the benefits gained.

Examples of unproductive or seldom-successful items include: the GOTA station, messaging, the VHF station and educational activities for visitors. And forget about QRP – it's simply too much work, drains our limited resources and is discouraging for operators who like to make contacts, rather than sit in frustration when they can 't be heard.

We can still retain the information table, arrange publicity in the form of an "Amateur Radio Week" proclamation, invite public officials and politicians, and operate under emergency power, etc. as these can be achieved with modest effort.

Simplify the antenna arrangement. Continue to use the tri-band beam with triplexer and bandpass filters on bigfoot tower during the day when these bands are open. During the evening deploy a separate 40m dipole and 80 m dipole – we have the tall trees for them and the means of getting the wires up high. The long 80-40 wire has been effective in the past, but is difficult to erect and tunes so sharply that it is usable on only one end of the 80 m band without external tuner. I believe the failure of our 160-80-40 triplexer during FD was the result of high swr while trying to get power into the wire. Forget 160 m operation and don't bother with the digital modes, as in both cases they will bring forth insufficient number of contacts.

Continue with last year's decision to use separate tents for each station but position them so that they are in the shade in late afternoon. Small tents are much easier to erect and, if it rains, they are easier to take down and dry out before storage. Make sure the toilets are close to the operating area.

For radios, revert to the time-tested arrangement of 12 v batteries connected to chargers running off the generators plus laptop computers with their own batteries. This minimizes the number of generators required and assures that we can keep operating if the generators run out of fuel.

It is imperative that critical items be addressed well before Field Day, including:

1. All coax, connectors, antennas and towers checked and repaired
2. Pre-recorded wav files for at least the CQ of all those operating SSB
3. Computer networking set up and tested beforehand for all stations.
4. The ability to use spots is so advantageous that the effort to secure Internet access is well worth the effort- we should try.

Finally, persons who express views about how FD should be organized and run will be asked to commit themselves to the planning exercise and give of their time to make it a success.

~ John VA7XB
SARC Vice-President

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228.

On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 or IRLP Node 1737.

	SARC Net 20:00 Hrs
1st Tuesday Standby	Drew VA7DRW Dixie VA7DIX
2nd Tuesday Standby	Jinty VA7JMR Sheldon VA7XNL
3rd Tuesday Standby	Rob VE7CZV Vacant
4th Tuesday Standby	Kapila VE7KGK John VA7XB
5th Tuesday Standby	Robert VA7FMR Vacant
Want a turn at Net Control? Contact the SARC Net Manager	

Down The Log…

SARC Monthly Meetings

2nd Wed. (Sept-Jun)
1900 hr at the PREOC
Emergency Mgmt BC
14292 Green Timbers
Way, Surrey, BC

Weekly Club Breakfast

Saturday at 0900 hr
Kalmar Family Restaurant
8076 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 hr local
on 147.360 MHz (+)
Tone=110.9

SEPARS Net

Tuesday at 1915 hr local
on 147.360 MHz (+)
Tone=110.9

VE7RSC Repeaters

2m: 147.360MHz+
Tone= 110.9Hz
IRLP node 1736
Echolink node 496228

1.2m: 223.960 Mhz -1.6
Tone=110.9

70cm: 443.775MHz+
Tone= 110.9Hz
IRLP node 1737

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These are suitable for sewing on a jacket, cap or your jammies, so you can proudly display your support for the club.

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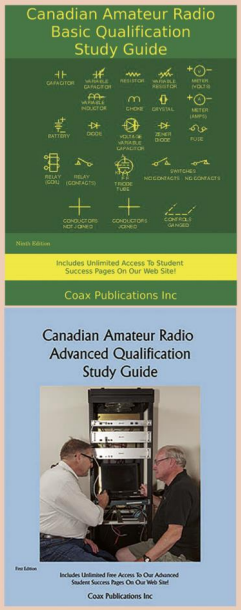
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